APPENDIX D

Technical Methods – Economics

Table of Contents
Appendix D

List of Tables and Figures

APPENDIX D – TECHNICAL METHODS – ECONOMICS

D1 Introduction

This technical appendix describes the methods, data, and key assumptions used in the analysis of economic effects of the Proposed Action and Alternatives. The appendix is organized similar to Section 4.6 subsections, with a description of methods, data, and assumptions for commercial fishing activity and values, sport-fishing activity and values, and effects on the local and regional economy. Background data used in developing the Affected Environment (Section 3.6) is presented in Attachment A to this appendix. Information, including data and assumptions, developed by The Research Group and Meyer Resources, Inc. to produce economic factors employed in the impact assessment, is provided in Attachments B, C, D, and E to this appendix.

D2 Commercial Fishing Activity and Values

D2.1 Methods

Estimates of Puget Sound net and troll commercial salmon landings, in numbers of fish landed by species for both marine and freshwater catch areas, were developed by the fishery modeling group for each alternative and provided to the economic analysis team. For purposes of the economic analysis, these landings were assigned to one of the three economic regions in which landings are made and then converted to pounds landed, ex-vessel values, and ex-processor values. To evaluate the direct effects of the alternatives on employment and personal income (wages, profits and other income) levels in the commercial fishing industry and salmon processing industry, ex-vessel values and ex-processor values were used with direct employment and personal income multipliers and coefficients to determine changes in these economic conditions within each region. The following steps were undertaken to accomplish these tasks.

D2.1.1 Step 1: Allocate Landings to Economic Regions

Three economic regions were established based on port locations to assess the economic effects of changes in harvests of Puget Sound salmon. The ports were grouped into the following three regions: North Puget Sound, South Puget Sound/South Hood Canal, and Strait of Juan de Fuca/North Hood Canal. The geographic boundaries of these regions in relation to city and county boundaries are shown in Attachment B. The regional boundaries were chosen in consideration of fishing industry labor markets, location of ports where salmon deliveries are received and where primary processing occurs, ports where there is a likeness in fleet and vessel profiles, and other considerations. Nearly all landings

from Puget Sound catch areas are accounted for in the selected regions. Some deliveries, however, occur elsewhere in Washington. For this reason, the sum of the economic impacts in the three regions does not necessarily equal statewide economic impacts.

Estimated non-tribal and tribal marine and freshwater landings were allocated to the three economic regions based on a mapping of Puget Sound catch areas to the ports where the catch is landed, using 2002 chinook salmon catch data. The landing and catch area assignments, and the data used to make the assignments, are included in Attachment B to this appendix. The landings assignments are summarized in Table D-1. To allocate the estimated landings for each alternative, the percentages shown in Table D-1 were applied to total estimated landings within each region for each species (i.e., chinook, coho, sockeye, pink, chum, and steelhead). For example, using the percentage in Table D-1, 100 percent of the catch in Marine Catch Areas 7, 8, and 9 were assumed to be landed in ports located in the North Puget Sound region.

Table D-1. Percentages used to allocate estimated harvest in marine catch areas to economic regions.

Marine Catch Area	North Puget Sound	South Puget Sound/South Hood Canal	The Straits of Juan de Fuca/North Hood Canal
Areas 5, 6	0%	0%	100%
Area 7	100%	0%	0%
Area 8, 9	100%	0%	0%
Areas 10, 11, 13	0%	100%	0%
Area 12	0%	100%	0%

D2.1.2 Step 2: Convert Landings in Each Region to Harvested Weights

Once estimated landings (in number of fish) for each species were allocated to each region (Step 1), the total harvested weight was calculated by multiplying marine and freshwater landings by average weights for each species. These averages, which are shown in Table D-2, were based on 1996–2001 averages derived from the Washington Department of Fish and Wildlife's License and Fish Ticket (LIFT) data base.

Table D-2. Average weights (in pounds) used to convert estimated landings to ex-vessel weights.

Species	Marine	Freshwater
Chinook	13.29	12.44
Chum	9.04	11.10
Coho	5.79	5.39
Pink	3.84	3.96
Sockeye	5.56	5.13
Steelhead	7.68	6.95

D2.1.3 Step 3: Convert Harvested Weights to Ex-Vessel and Ex-Processor Values

Once harvest weights were estimated (Step 2), the ex-vessel and ex-processor values of the harvests in each region were estimated by multiplying harvested poundage by average ex-vessel and ex-processor prices per pound for each species. The ex-vessel averages, shown in Table D-3, were based on 1996–2001 averages derived from the Washington Department of Fish and Wildlife's LIFT data base. The ex-processor prices, shown in Table D-4, were developed based on data analysis conducted by The Research Group (Attachment B).

Table D-3. Average prices (per pound) used to convert estimated harvested poundage to ex-vessel values.

Species	Marine	Freshwater
Chinook	$0.81	$0.63
Chum	$0.24	$0.24
Coho	$0.47	$0.41
Pink	$0.17	$0.15
Sockeye	$1.20	$0.82
Steelhead	$0.77	$0.67

Table D-4. Average prices (per landed round pound) used to convert estimated harvested poundage to ex-processor values.

Species	North Puget Sound	South Puget Sound/South Hood Canal	The Straits of Juan de Fuca/North Hood Canal
Chinook:			
Net	$1.02	$1.34	$1.20
Troll	$1.34	$1.66	$1.52
Chum	$0.79	$0.76	$1.00
Coho:			
Net	$0.94	$1.16	$1.00
Troll	$0.57	$0.61	$1.00
Pink	$0.71	$1.46	$1.31
Sockeye	$1.50	$1.50	$1.46
Steelhead	$0.71	$1.46	$1.31

D2.1.4 Step 4: Estimate Direct Employment Impacts on the Commercial Fishing Industry and Salmon Processing Industry

Employment in the commercial salmon fishing industry is highly seasonal, with jobs lasting from a few weeks to a few months. Based upon the availability and abundance of different commercial species and restrictions imposed on the harvest of protected species, fishing crews may quickly switch from fishing for salmon to other species. Vessel owners, who are often self-employed, may also increase and decrease crew sizes on a seasonal basis. Employment attributable solely to commercial salmon fishing activities is therefore difficult to estimate and assess. In an effort to accurately capture employment effects in the commercial salmon fishing industry, two measures of employment were developed using

different estimation procedures. The first measure, hereafter referred to as direct jobs, reflects both full- and part-time employment in the commercial fishing industry. The second measure, hereafter referred to as direct employment, reflects full-time equivalent employment in the industry. For the processing industry, which is less sensitive to the availability of specific commercial species, only full-time equivalent employment was used to characterize employment effects.

Direct jobs in the commercial salmon fishing industry generated by harvests under each alternative were estimated using a direct employment multiplier representing the number of full- and part-time jobs generated per million dollars of ex-vessel revenue received by commercial fishermen. As discussed below, a single direct multiplier was used for all regions for non-tribal fishermen. Similarly, a single multiplier was used for all regions for tribal fishermen. Using a single multiplier for all regions incorporates the assumption that, on average, labor requirements per fish harvested would not vary across the three regions.

Direct jobs multipliers for non-tribal and tribal fishermen were estimated for all regions using non-tribal and tribal jobs data developed using the number of active license holders from the Washington Department of Fish and Wildlife's 2001 LIFT data base, and using assumptions concerning the typical crew size for commercial salmon fishing using different gear methods. Estimates of typical crew size were: one person for fishing using hook and line, dip nets, set nets, hand lines, and trolling; 1.5 crew persons for gill nets; 2 crew persons for fishing using beach seines; 3 crew persons for fishing using reef nets; and 4 crew persons for fishing using purse seines. To arrive at an estimate of the number of commercial salmon fishing jobs per million dollars of ex-vessel revenue, the estimated non-tribal and tribal commercial salmon fishing jobs were divided by the 2001 total ex-vessel values for Puget Sound salmon harvests for non-tribal and tribal fishermen. This method resulted in the following direct jobs multipliers: non-tribal – 365 jobs per $1 million in ex-vessel revenue; tribal – 507 jobs per $1 million in ex-vessel revenue. These jobs multipliers reflect the fact that commercial salmon fishing generates a large number of part-time jobs relative to full-time employment opportunities because, as discussed previously, most salmon fishermen only harvest salmon for a few months each year. Additionally, many commercial salmon license holders may fish for only a few days each year, participating in the fishery long enough to maintain their licenses. The jobs multipliers were applied to the estimated ex-vessel values for non-tribal and tribal fishermen in each region to determine the number of estimated fishing jobs generated under each alternative.

Full-time equivalent employment in the commercial fishing and salmon processing industries generated by harvests under each alternative were estimated using employment factors (i.e., coefficients)

developed by The Research Group (Attachment B). Factors were provided for each salmon species specific to the three economic regions for composite product forms (i.e., averaged over all product forms, including eggs). Factors were also supplied for gear groups, when appropriate. (All salmon species other than chinook and coho are landed solely with net gear.) Factors were provided for making average calculations (i.e., total economic contributions resulting from the overall salmon fishery), and marginal calculations (i.e., economic contributions resulting from changes to the fishery). The direct employment factors for salmon harvesters and processors, shown in Tables D-5 and D-6, respectively, represent the estimated number of full-time equivalent jobs in the commercial salmon fishing and processing industries generated per million round pounds of landed salmon. The average employment factors were applied to the landed poundage estimates for each region to estimate employment levels for the Proposed Action. Similarly, the marginal employment factors were applied to the landed poundage estimates for each region to estimate employment levels for each alternative to the Proposed Action.

Table D-5. Factors (full-time equivalent jobs per million landed round pounds) used to convert estimated harvested poundage to employment in the commercial salmon fishing industry.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal	
Species	Average	Marginal	Average	Marginal	Average	Marginal
Chinook:						
Net	16.7	18.7	15.3	17.3	16.4	18.5
Troll	23.3	26.2	21.5	24.1	23.6	26.5
Chum	2.9	3.2	2.7	3.0	2.3	2.6
Coho:						
Net	8.2	9.2	7.5	8.4	7.9	8.9
Troll	7.5	8.4	7.5	8.4	7.5	8.4
Pink	10.7	12.0	9.9	11.0	10.7	12.1
Sockeye	21.0	23.5	19.1	21.4	20.5	23.1
Steelhead	10.67	12.0	9.9	11.0	10.7	12.1

Table D-6. Factors (full-time equivalent employment per million landed round pounds) used to convert estimated harvested poundage to employment in the salmon processing industry.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal	
Species	Average	Marginal	Average	Marginal	Average	Marginal
Chinook:						
Net	14.9	16.7	13.0	14.6	14.7	16.5
Troll	14.4	16.1	12.5	14.1	14.0	15.7
Chum	14.7	16.6	12.8	14.4	14.3	16.1
Coho:						
Net	15.1	16.9	13.1	14.7	14.7	16.5
Troll	13.6	15.3	13.6	15.3	13.6	15.3
Pink	14.7	16.6	12.8	14.4	14.5	16.3
Sockeye	14.9	16.7	13.1	14.7	14.7	16.5
Steelhead	14.7	16.6	12.8	14.4	14.5	16.3

D2.1.5 Step 5: Estimate Direct Personal Income Impacts on the Commercial Fishing Industry and Salmon Processing Industry

For the commercial fishing and processing industries, personal income generated by harvests under each alternative was estimated using a direct income coefficient representing the amount of income generated per round pound of commercial salmon landings.

Personal income for the commercial fishing and salmon processing industries generated by harvests under each alternative was estimated using income factors (i.e., coefficients) developed by The Research Group (Attachment B). Factors were provided for each salmon species specific to the three economic regions for composite product forms (i.e., averaged over all product forms, including eggs). Factors were also supplied for gear groups, when appropriate. (All salmon species other than chinook and coho are landed solely with net gear.) Factors were provided for making average calculations (i.e., total economic contributions resulting from the overall salmon fishery), and marginal calculations (i.e., economic contributions resulting from changes to the fishery). The direct personal income factors for salmon harvesters and processors, which are shown in Tables D-7 and D-8, respectively, represent the amount of personal income received by the commercial salmon fishing and processing industries per round pound of landed salmon. These factors were applied to the landed poundage estimates for each region to estimate direct personal income levels for each alternative.

Table D-7. Factors (personal income per landed round pound) used to convert estimated harvested poundage to personal income in the commercial salmon fishing industry.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal	
Species	Average	Marginal	Average	Marginal	Average	Marginal
Chinook:						
Net	$0.43	$0.48	$0.39	$0.43	$0.42	$0.47
Troll	$0.60	$0.62	$0.54	$0.60	$0.60	$0.68
Chum	$0.07	$0.08	$0.07	$0.08	$0.06	$0.07
Coho:						
Net	$0.21	$0.24	$0.19	$0.21	$0.20	$0.23
Troll	$0.60	$0.62	$0.54	$0.60	$0.19	$0.22
Pink	$0.28	$0.28	$0.25	$0.28	$0.27	$0.31
Sockeye	$0.54	$0.55	$0.48	$0.54	$0.52	$0.59
Steelhead	$0.28	$0.28	$0.25	$0.28	$0.27	$0.31

Table D-8. Factors (personal income per landed round pound) used to convert estimated harvested poundage to personal income in the salmon processing industry.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal	
Species	Average	Marginal	Average	Marginal	Average	Marginal
Chinook:						
Net	$0.37	$0.42	$0.34	$0.38	$0.37	$0.42
Troll	$0.36	$0.40	$0.32	$0.37	$0.35	$0.40
Chum	$0.37	$0.41	$0.33	$0.37	$0.36	$0.41
Coho:						
Net	$0.38	$0.42	$0.34	$0.38	$0.37	$0.42
Troll	$0.36	$0.40	$0.32	$0.37	$0.35	$0.39
Pink	$0.37	$0.41	$0.33	$0.37	$0.37	$0.41
Sockeye	$0.37	$0.42	$0.34	$0.38	$0.37	$0.42
Steelhead	$0.37	$0.41	$0.33	$0.37	$0.37	$0.41

D2.1.6 Step 6: Estimate Net Economic Values Associated with Commercial Salmon Fishing and Processing

The net economic value of the Puget Sound commercial salmon fishery can be measured in terms of its monetary value to producers and consumers. Producers include the commercial fishers, including operators (or permit holders) and crewmembers, and fish processors. Consumers include the public that consumes salmon.

For this analysis, only net economic value to producers is evaluated because it is assumed that changes in the supply of salmon from the alternatives would not measurably affect the price that consumers pay for salmon. Net economic value to salmon fishers is represented by the difference between the ex-vessel value of the salmon harvest and out-of-pocket and capital investment expenses for commercial salmon fishermen and the opportunity cost of labor.

Coefficients developed by Meyer Resources, Inc. for this study and reported in Attachment C were used to estimate net economic values associated with commercial fishing. As described in Attachment C, net economic values associated with commercial salmon fishing under the status-quo conditions can be considered from two different accounting perspectives. Net economic efficiency returns describe "present-day, average net economic returns evident in the salmon fishery without consideration of benefit trade-offs with family and/or community goals." Net socio-economic returns describe "net economic returns from present fishing activities plus potential economic rent foregone to achieve family, community or fishing port objectives."

Because the Proposed Action (Alternative 1) generally reflects a status quo condition, a coefficient based on average conditions was considered appropriate for estimating the net economic value of the commercial salmon harvest. A coefficient of 0.58 was used for this estimation, which reflects a measure of net economic efficiency and takes into account that the opportunity (or alternative) cost of labor for many persons involved in commercial fishing is very low, particularly tribal labor. The determination that alternative employment opportunities for commercial fishermen are limited and that wages paid to commercial fishermen should be treated as a "credit" in the calculation of net economic value was based on a review of available unemployment data for commercial fishermen in the Puget Sound area obtained from the Washington State Employment Security Department. It was concluded that the unemployment rate for both tribal and non-tribal commercial fishermen who harvest salmon in Puget Sound likely exceeds the U.S. Water Resources Council thresholds for "substantial and persistent unemployment." The 0.58 coefficient under the Proposed Action/Status Quo Condition was applied to the ex-vessel value of the commercial salmon harvest for Alternative 1.

For Alternatives 2, 3, and 4, a "marginal" coefficient of 0.94 was used that also assumes limited alternative employment opportunities for both tribal and non-tribal commercial fishermen. It should be noted that differences potentially exist in alternative employment opportunities and in the disposition of capital used for commercial fishing between tribal and non-tribal commercial fishermen, and that these differences would affect the calculation of net economic values for the two user groups. Resolution of this issue, however, was beyond the scope of this study, so the same net economic value coefficient was used for both tribal and non-tribal fishermen. The 0.94 coefficient was applied to the reduction in ex-vessel values of the commercial salmon harvest for Alternatives 2, 3, and 4 to estimate the change in net economic value associated with commercial salmon fishing.

For estimating net economic values associated with salmon processing, coefficients developed by The Research Group for this study and reported in Attachment D were used. These coefficients represent

the net income to processors, and are derived as 50 percent of the economic contribution margin. The coefficients are specific to different species and gear types.

It should be noted that the reduction in net economic values associated with salmon harvest and processing under Alternatives 2, 3, and 4 would be larger than the net economic values associated with Alternative 1. This would occur because the reduction in values associated with these alternatives, estimated at 94 percent of the reductions in ex-vessel values, would exceed the net economic values associated with Alternative 1, which are estimated at 58 percent of the ex-vessel values. This result is technically feasible because of the potential negative effect of large reductions in the salmon harvest on the value of capital investment in boats and equipment used for salmon fishing, in addition to the reduction in income to operators and crew. It should be emphasized that there are many considerations that can affect the coefficients for estimating net economic values in a particular fishery, as noted in a review of coefficients in the existing literature (National Marine Fisheries Service 2002) for evaluating marginal changes in net economic values of commercial salmon fishing. Consequently, the coefficients used to estimate net economic values for this study should be interpreted with caution.

D2.2 Assumptions Used in the Analysis

The following key assumptions were incorporated into the assessment of commercial fishing activity and values.

- The allocation of landings among economic regions assumes that economic impacts generated by harvests from marine areas and rivers are primarily felt in the port and river locations where the harvests are landed.
- Average fish weights and ex-vessel prices over the period 1996–2001 were assumed in the analysis.
- For the assessment of direct job effects, labor requirements per harvested fish for non-tribal and tribal commercial fishing operations were assumed not to vary across the three regions.
- A coefficient of 0.58 was assumed in estimating the net economic value of the salmon harvest by tribal and non-tribal commercial fishermen under the Proposed Action, and a coefficient of 0.94 was assumed in estimating the loss associated with reductions in harvest under Alternatives 2, 3, or 4.

D2.3 Estimated Values

The estimated regional distributions of harvests, estimated harvest weights, harvest values, processor values, and direct employment and personal income resulting from the methodology and assumptions described above are presented in Tables D-9 through D-17 for all alternatives under Scenario B (2003 abundance and 2003 Canadian/Alaskan fisheries), which is currently considered the most likely scenario.

Table D-9. Allocation of estimated commercial landings to economic regions.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	21,548	2,079	0	23,627
Tribal				
Marine Net	26,355	13,539	1,350	41,244
Marine Troll	0	0	1,010	1,010
Freshwater Net	2,883	35,013	3	37,899
Tribal Subtotal	29,238	48,552	2,363	80,153
Total	50,786	50,631	2,363	103,780
Coho				
Non-tribal				
Marine Net	15,852	6,624	1,886	24,362
Tribal				
Marine Net	73,472	83,246	21,162	177,880
Marine Troll	0	0	910	910
Freshwater Net	28,180	74,048	1,807	104,035
Tribal Subtotal	101,652	157,294	23,879	282,825
Total	117,504	163,918	25,765	307,187
Sockeye				
Non-tribal				
Marine Net	246,594	0	0	246,594
Tribal				
Marine Net	255,609	0	26,419	282,028
Freshwater Net	250	47,700	0	47,950
Tribal Subtotal	255,859	47,700	26,419	329,978
Total	502,453	47,700	26,419	576,572
Pink				
Non-tribal				
Marine Net	710,844	4,441	0	715,285
Tribal				
Marine Net	685,155	28,748	1,374	715,277
Freshwater Net	46,432	170	0	46,602
Tribal Subtotal	731,587	28,918	1,374	761,879
Total	1,442,431	33,359	1,374	1,477,164
Chum				
Non-tribal				
Marine Net	116,650	269,152	0	385,802
Tribal				
Marine Net	98,181	226,281	10,450	334,912
Freshwater Net	54,008	77,502	0	131,510
Tribal Subtotal	152,189	303,783	10,450	466,422
Total	268,839	572,935	10,450	852,224
Steelhead				
Non-tribal				
Marine Net	0	0	0	0
Tribal				
Marine Net	282	7	119	408
Freshwater Net	250	656	620	1,526
Tribal Subtotal	532	663	739	1,934
Total	532	663	739	1,934
Total				
Non-tribal				
Marine Net	1,111,488	282,296	1,886	1,395,670
Tribal				
Marine Net	1,139,054	351,821	60,874	1,551,748
Marine Troll	0	0	1,920	1,920
Freshwater Net	132,004	235,090	2,430	369,523
Tribal Subtotal	1,271,057	586,910	65,224	1,923,191
Total	2,382,545	869,206	67,110	3,318,861

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-9. Allocation of estimated commercial landings to economic regions.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	2	-21,546	-100.0%	0	-2,079	-100.0%	0	0	0.0%	2	-23,625	-100.0%
Tribal												
Marine Net	7,579	-18,776	-71.2%	0	-13,539	-100.0%	0	-1,350	-100.0%	7,579	-33,665	-81.6%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-1,010	-100.0%	0	-1,010	-100.0%
Freshwater Net	770	-2,114	-73.3%	42,540	7,526	21.5%	0	-3	-100.0%	43,309	5,410	14.3%
Tribal Subtotal	8,349	-20,890	-71.4%	42,540	-6,013	-12.4%	0	-2,363	-100.0%	50,888	-29,265	-36.5%
Total	8,351	-42,436	-83.6%	42,540	-8,092	-16.0%	0	-2,363	-100.0%	50,890	-52,890	-51.0%
Coho												
Non-tribal												
Marine Net	519	-15,333	-96.7%	0	-6,624	-100.0%	2,304	418	22.2%	2,823	-21,539	-88.4%
Tribal												
Marine Net	0	-73,472	-100.0%	0	-83,246	-100.0%	0	-21,162	-100.0%	0	-177,880	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-910	-100.0%	0	-910	-100.0%
Freshwater Net	33,142	4,962	17.6%	77,382	3,334	4.5%	1,725	-82	-4.5%	112,249	8,214	7.9%
Tribal Subtotal	33,142	-68,510	-67.4%	77,382	-79,912	-50.8%	1,725	-22,154	-92.8%	112,249	-170,576	-60.3%
Total	33,661	-83,843	-71.4%	77,382	-86,536	-52.8%	4,029	-21,736	-84.4%	115,072	-192,115	-62.5%
Sockeye												
Non-tribal												
Marine Net	0	-246,594	-100.0%	0	0	0.0%	0	0	0.0%	0	-246,594	-100.0%
Tribal												
Marine Net	0	-255,609	-100.0%	0	0	0.0%	0	-26,419	-100.0%	0	-282,028	-100.0%
Freshwater Net	0	-250	-100.0%	0	-47,700	-100.0%	0	0	0.0%	0	-47,950	-100.0%
Tribal Subtotal	0	-255,859	-100.0%	0	-47,700	-100.0%	0	-26,419	-100.0%	0	-329,978	-100.0%
Total	0	-502,453	-100.0%	0	-47,700	-100.0%	0	-26,419	-100.0%	0	-576,572	-100.0%
Pink												
Non-tribal												
Marine Net	0	-710,844	-100.0%	0	-4,441	-100.0%	0	0	0.0%	0	-715,285	-100.0%
Tribal												
Marine Net	0	-685,155	-100.0%	0	-28,748	-100.0%	0	-1,374	-100.0%	0	-715,277	-100.0%
Freshwater Net	83,400	36,968	79.6%	26,108	25,938	15257.6%	0	0	0.0%	109,508	62,906	135.0%
Tribal Subtotal	83,400	-648,187	-88.6%	26,108	-2,810	-9.7%	0	-1,374	-100.0%	109,508	-652,371	-85.6%
Total	83,400	-1,359,031	-94.2%	26,108	-7,251	-21.7%	0	-1,374	-100.0%	109,508	-1,367,656	-92.6%
Chum												
Non-tribal												
Marine Net	0	-116,650	-100.0%	0	-269,152	-100.0%	0	0	0.0%	0	-385,802	-100.0%
Tribal												
Marine Net	0	-98,181	-100.0%	0	-226,281	-100.0%	0	-10,450	-100.0%	0	-334,912	-100.0%
Freshwater Net	1,808	-52,200	-96.7%	146,976	69,474	89.6%	2	2	0.0%	148,786	17,276	13.1%
Tribal Subtotal	1,808	-150,381	-98.8%	146,976	-156,807	-51.6%	2	-10,448	-100.0%	148,786	-317,636	-68.1%
Total	1,808	-267,031	-99.3%	146,976	-425,959	-74.3%	2	-10,448	-100.0%	148,786	-703,438	-82.5%
Steelhead												
Non-tribal												
Marine Net	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tribal												
Marine Net	0	-282	-100.0%	0	-7	-100.0%	0	-119	-100.0%	0	-408	-100.0%
Freshwater Net	227	-23	-9.2%	653	-3	-0.5%	610	-10	-1.6%	1,490	-36	-2.4%
Tribal Subtotal	227	-305	-57.3%	653	-10	-1.5%	610	-129	-17.5%	1,490	-444	-23.0%
Total	227	-305	-57.3%	653	-10	-1.5%	610	-129	-17.5%	1,490	-444	-23.0%
Total												
Non-tribal												
Marine Net	521	-1,110,967	-100.0%	0	-282,296	-100.0%	2,304	418	22.2%	2,825	-1,392,845	-99.8%
Tribal												
Marine Net	7,579	-1,131,475	-99.3%	0	-351,821	-100.0%	0	-60,874	-100.0%	7,579	-1,544,169	-99.5%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-1,920	-100.0%	0	-1,920	-100.0%
Freshwater Net	119,347	-12,657	-9.6%	293,659	58,569	24.9%	2,337	-93	-3.8%	415,343	45,819	12.4%
Tribal Subtotal	126,926	-1,144,132	-90.0%	293,659	-293,251	-50.0%	2,337	-62,887	-96.4%	422,922	-1,500,270	-78.0%
Total	127,447	-2,255,098	-94.7%	293,659	-575,547	-66.2%	4,641	-62,469	-93.1%	425,747	-2,893,115	-87.2%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-9. Allocation of estimated commercial landings to economic regions.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	2	-21,546	-100.0%	0	-2,079	-100.0%	0	0	0.0%	2	-23,625	-100.0%
Tribal												
Marine Net	0	-26,355	-100.0%	0	-13,539	-100.0%	0	-1,350	-100.0%	0	-41,244	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-1,010	-100.0%	0	-1,010	-100.0%
Freshwater Net	0	-2,883	-100.0%	42,540	7,526	21.5%	0	-3	-100.0%	42,540	4,641	12.2%
Tribal Subtotal	0	-29,238	-100.0%	42,540	-6,013	-12.4%	0	-2,363	-100.0%	42,540	-37,613	-46.9%
Total	2	-50,784	-100.0%	42,540	-8,092	-16.0%	0	-2,363	-100.0%	42,542	-61,238	-59.0%
Coho												
Non-tribal												
Marine Net	519	-15,333	-96.7%	0	-6,624	-100.0%	2,304	418	22.2%	2,823	-21,539	-88.4%
Tribal												
Marine Net	0	-73,472	-100.0%	0	-83,246	-100.0%	0	-21,162	-100.0%	0	-177,880	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-910	-100.0%	0	-910	-100.0%
Freshwater Net	143	-28,037	-99.5%	77,382	3,334	4.5%	1,725	-82	-4.5%	79,250	-24,785	-23.8%
Tribal Subtotal	143	-101,509	-99.9%	77,382	-79,912	-50.8%	1,725	-22,154	-92.8%	79,250	-203,575	-72.0%
Total	662	-116,842	-99.4%	77,382	-86,536	-52.8%	4,029	-21,736	-84.4%	82,073	-225,114	-73.3%
Sockeye												
Non-tribal												
Marine Net	0	-246,594	-100.0%	0	0	0.0%	0	0	0.0%	0	-246,594	-100.0%
Tribal												
Marine Net	0	-255,609	-100.0%	0	0	0.0%	0	-26,419	-100.0%	0	-282,028	-100.0%
Freshwater Net	0	-250	-100.0%	0	-47,700	-100.0%	0	0	0.0%	0	-47,950	-100.0%
Tribal Subtotal	0	-255,859	-100.0%	0	-47,700	-100.0%	0	-26,419	-100.0%	0	-329,978	-100.0%
Total	0	-502,453	-100.0%	0	-47,700	-100.0%	0	-26,419	-100.0%	0	-576,572	-100.0%
Pink												
Non-tribal												
Marine Net	0	-710,844	-100.0%	0	-4,441	-100.0%	0	0	0.0%	0	-715,285	-100.0%
Tribal												
Marine Net	0	-685,155	-100.0%	0	-28,748	-100.0%	0	-1,374	-100.0%	0	-715,277	-100.0%
Freshwater Net	0	-46,432	-100.0%	26,108	25,938	15257.6%	0	0	0.0%	26,108	-20,494	-44.0%
Tribal Subtotal	0	-731,587	-100.0%	26,108	-2,810	-9.7%	0	-1,374	-100.0%	26,108	-735,771	-96.6%
Total	0	-1,442,431	-100.0%	26,108	-7,251	-21.7%	0	-1,374	-100.0%	26,108	-1,451,056	-98.2%
Chum												
Non-tribal												
Marine Net	0	-116,650	-100.0%	0	-269,152	-100.0%	0	0	0.0%	0	-385,802	-100.0%
Tribal												
Marine Net	0	-98,181	-100.0%	0	-226,281	-100.0%	0	-10,450	-100.0%	0	-334,912	-100.0%
Freshwater Net	1,057	-52,951	-98.0%	146,976	69,474	89.6%	2	2	0.0%	148,035	16,525	12.6%
Tribal Subtotal	1,057	-151,132	-99.3%	146,976	-156,807	-51.6%	2	-10,448	-100.0%	148,035	-318,387	-68.3%
Total	1,057	-267,782	-99.6%	146,976	-425,959	-74.3%	2	-10,448	-100.0%	148,035	-704,189	-82.6%
Steelhead												
Non-tribal												
Marine Net	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tribal												
Marine Net	0	-282	-100.0%	0	-7	-100.0%	0	-119	-100.0%	0	-408	-100.0%
Freshwater Net	227	-23	-9.2%	653	-3	-0.5%	610	-10	-1.6%	1,490	-36	-2.4%
Tribal Subtotal	227	-305	-57.3%	653	-10	-1.5%	610	-129	-17.5%	1,490	-444	-23.0%
Total	227	-305	-57.3%	653	-10	-1.5%	610	-129	-17.5%	1,490	-444	-23.0%
Total												
Non-tribal												
Marine Net	521	-1,110,967	-100.0%	0	-282,296	-100.0%	2,304	418	22.2%	2,825	-1,392,845	-99.8%
Tribal												
Marine Net	0	-1,139,054	-100.0%	0	-351,821	-100.0%	0	-60,874	-100.0%	0	-1,551,748	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-1,920	-100.0%	0	-1,920	-100.0%
Freshwater Net	1,427	-130,577	-98.9%	293,659	58,569	24.9%	2,337	-93	-3.8%	297,423	-72,100	-19.5%
Tribal Subtotal	1,427	-1,269,630	-99.9%	293,659	-293,251	-50.0%	2,337	-62,887	-96.4%	297,423	-1,625,768	-84.5%
Total	1,948	-2,380,597	-99.9%	293,659	-575,547	-66.2%	4,641	-62,469	-93.1%	300,248	-3,018,613	-91.0%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-9. Allocation of estimated commercial landings to economic regions.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0	-21,548	-100.0%	0	-2,079	-100.0%	0	0	0.0%	0	-23,627	-100.0%
Tribal												
Marine Net	0	-26,355	-100.0%	0	-13,539	-100.0%	0	-1,350	-100.0%	0	-41,244	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-1,010	-100.0%	0	-1,010	-100.0%
Freshwater Net	0	-2,883	-100.0%	0	-35,013	-100.0%	0	-3	-100.0%	0	-37,899	-100.0%
Tribal Subtotal	0	-29,238	-100.0%	0	-48,552	-100.0%	0	-2,363	-100.0%	0	-80,153	-100.0%
Total	0	-50,786	-100.0%	0	-50,631	-100.0%	0	-2,363	-100.0%	0	-103,780	-100.0%
Coho												
Non-tribal												
Marine Net	0	-15,852	-100.0%	0	-6,624	-100.0%	0	-1,886	-100.0%	0	-24,362	-100.0%
Tribal												
Marine Net	0	-73,472	-100.0%	0	-83,246	-100.0%	0	-21,162	-100.0%	0	-177,880	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-910	-100.0%	0	-910	-100.0%
Freshwater Net	0	-28,180	-100.0%	0	-74,048	-100.0%	0	-1,807	-100.0%	0	-104,035	-100.0%
Tribal Subtotal	0	-101,652	-100.0%	0	-157,294	-100.0%	0	-23,879	-100.0%	0	-282,825	-100.0%
Total	0	-117,504	-100.0%	0	-163,918	-100.0%	0	-25,765	-100.0%	0	-307,187	-100.0%
Sockeye												
Non-tribal												
Marine Net	0	-246,594	-100.0%	0	0	0.0%	0	0	0.0%	0	-246,594	-100.0%
Tribal												
Marine Net	0	-255,609	-100.0%	0	0	0.0%	0	-26,419	-100.0%	0	-282,028	-100.0%
Freshwater Net	0	-250	-100.0%	0	-47,700	-100.0%	0	0	0.0%	0	-47,950	-100.0%
Tribal Subtotal	0	-255,859	-100.0%	0	-47,700	-100.0%	0	-26,419	-100.0%	0	-329,978	-100.0%
Total	0	-502,453	-100.0%	0	-47,700	-100.0%	0	-26,419	-100.0%	0	-576,572	-100.0%
Pink												
Non-tribal												
Marine Net	0	-710,844	-100.0%	0	-4,441	-100.0%	0	0	0.0%	0	-715,285	-100.0%
Tribal												
Marine Net	0	-685,155	-100.0%	0	-28,748	-100.0%	0	-1,374	-100.0%	0	-715,277	-100.0%
Freshwater Net	0	-46,432	-100.0%	0	-170	-100.0%	0	0	0.0%	0	-46,602	-100.0%
Tribal Subtotal	0	-731,587	-100.0%	0	-28,918	-100.0%	0	-1,374	-100.0%	0	-761,879	-100.0%
Total	0	-1,442,431	-100.0%	0	-33,359	-100.0%	0	-1,374	-100.0%	0	-1,477,164	-100.0%
Chum												
Non-tribal												
Marine Net	0	-116,650	-100.0%	0	-269,152	-100.0%	0	0	0.0%	0	-385,802	-100.0%
Tribal												
Marine Net	0	-98,181	-100.0%	0	-226,281	-100.0%	0	-10,450	-100.0%	0	-334,912	-100.0%
Freshwater Net	1,057	-52,951	-98.0%	36,741	-40,761	-52.6%	2	2	0.0%	37,800	-93,710	-71.3%
Tribal Subtotal	1,057	-151,132	-99.3%	36,741	-267,042	-87.9%	2	-10,448	-100.0%	37,800	-428,622	-91.9%
Total	1,057	-267,782	-99.6%	36,741	-536,194	-93.6%	2	-10,448	-100.0%	37,800	-814,424	-95.6%
Steelhead												
Non-tribal												
Marine Net	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tribal												
Marine Net	0	-282	-100.0%	0	-7	-100.0%	0	-119	-100.0%	0	-408	-100.0%
Freshwater Net	227	-23	-9.2%	512	-144	-22.0%	609	-11	-1.8%	1,348	-178	-11.7%
Tribal Subtotal	227	-305	-57.3%	512	-151	-22.8%	609	-130	-17.6%	1,348	-586	-30.3%
Total	227	-305	-57.3%	512	-151	-22.8%	609	-130	-17.6%	1,348	-586	-30.3%
Total												
Non-tribal												
Marine Net	0	-1,111,488	-100.0%	0	-282,296	-100.0%	0	-1,886	-100.0%	0	-1,395,670	-100.0%
Tribal												
Marine Net	0	-1,139,054	-100.0%	0	-351,821	-100.0%	0	-60,874	-100.0%	0	-1,551,748	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-1,920	-100.0%	0	-1,920	-100.0%
Freshwater Net	1,284	-130,720	-99.0%	37,253	-197,837	-84.2%	611	-1,819	-74.9%	39,148	-330,375	-89.4%
Tribal Subtotal	1,284	-1,269,773	-99.9%	37,253	-549,657	-93.7%	611	-64,613	-99.1%	39,148	-1,884,043	-98.0%
Total	1,284	-2,381,261	-99.9%	37,253	-831,953	-95.7%	611	-66,499	-99.1%	39,148	-3,279,713	-98.8%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-10. Estimated weight of commercial landings in round pounds in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

Specie	Average Round Pounds Per Fish Landed	Alternative 1 - Proposed Action/Status Quo			
		North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook					
Non-tribal					
Marine Net	13.29	286,373	27,630	0	314,003
Tribal					
Marine Net	13.29	350,258	179,933	17,942	548,133
Marine Troll	13.29	0	0	13,423	13,423
Freshwater Net	12.44	35,866	435,568	34	471,467
Tribal Subtotal	NA	386,124	615,501	31,398	1,033,023
Total	NA	672,497	643,131	31,398	1,347,026
Coho					
Non-tribal					
Marine Net	5.79	91,783	38,352	10,920	141,055
Tribal					
Marine Net	5.79	425,403	481,994	122,528	1,029,925
Marine Troll	5.79	0	0	5,269	5,269
Freshwater Net	5.39	151,890	399,119	9,740	560,749
Tribal Subtotal	NA	577,293	881,113	137,537	1,595,943
Total	NA	669,076	919,465	148,457	1,736,998
Sockeye					
Non-tribal					
Marine Net	5.56	1,371,063	0	0	1,371,063
Tribal					
Marine Net	5.56	1,421,186	0	146,890	1,568,076
Freshwater Net	5.13	1,283	244,701	0	245,984
Tribal Subtotal	NA	1,422,469	244,701	146,890	1,814,059
Total	NA	2,793,531	244,701	146,890	3,185,122
Pink					
Non-tribal					
Marine Net	3.84	2,729,641	17,053	0	2,746,694
Tribal					
Marine Net	3.84	2,630,994	110,392	5,276	2,746,662
Freshwater Net	3.96	183,872	673	0	184,546
Tribal Subtotal	NA	2,814,866	111,066	5,276	2,931,208
Total	NA	5,544,507	128,119	5,276	5,677,902
Chum					
Non-tribal					
Marine Net	9.04	1,054,515	2,433,134	0	3,487,649
Tribal					
Marine Net	9.04	887,556	2,045,578	94,468	3,027,602
Freshwater Net	11.10	599,490	860,276	0	1,459,766
Tribal Subtotal	NA	1,487,046	2,905,853	94,468	4,487,367
Total	NA	2,541,561	5,338,987	94,468	7,975,016
Steelhead					
Non-tribal					
Marine Net	7.68	0	0	0	0
Tribal					
Marine Net	7.68	2,166	54	914	3,133
Freshwater Net	6.95	1,738	4,559	4,309	10,606
Tribal Subtotal	NA	3,903	4,613	5,223	13,739
Total	NA	3,903	4,613	5,223	13,739
Total					
Non-tribal					
Marine Net	NA	5,533,374	2,516,170	10,920	8,060,464
Tribal					
Marine Net	NA	5,717,562	2,817,951	388,017	8,923,531
Marine Troll	NA	0	0	18,692	18,692
Freshwater Net	NA	974,138	1,944,895	14,083	2,933,116
Tribal Subtotal	NA	6,691,701	4,762,847	420,792	11,875,339
Total	NA	12,225,075	7,279,016	431,712	19,935,803

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-10. Estimated weight of commercial landings in round pounds in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	27	-286,346	-100.0%	0	-27,630	-100.0%	0	0	0.0%	27	-313,976	-100.0%
Tribal												
Marine Net	100,725	-249,533	-71.2%	0	-179,933	-100.0%	0	-17,942	-100.0%	100,725	-447,408	-81.6%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-13,423	-100.0%	0	-13,423	-100.0%
Freshwater Net	9,573	-26,293	-73.3%	529,196	93,628	21.5%	0	-34	-100.0%	538,769	67,302	14.3%
Tribal Subtotal	110,298	-275,826	-71.4%	529,196	-86,305	-14.0%	0	-31,398	-100.0%	639,494	-393,529	-38.1%
Total	110,325	-562,172	-83.6%	529,196	-113,935	-17.7%	0	-31,398	-100.0%	639,521	-707,505	-52.5%
Coho												
Non-tribal												
Marine Net	3,005	-88,778	-96.7%	0	-38,352	-100.0%	13,340	2,420	22.2%	16,345	-124,710	-88.4%
Tribal												
Marine Net	0	-425,403	-100.0%	0	-481,994	-100.0%	0	-122,528	-100.0%	0	-1,029,925	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-5,269	-100.0%	0	-5,269	-100.0%
Freshwater Net	178,635	26,745	17.6%	417,089	17,970	4.5%	9,298	-442	-4.5%	605,022	44,273	7.9%
Tribal Subtotal	178,635	-398,658	-69.1%	417,089	-464,024	-52.7%	9,298	-128,239	-93.2%	605,022	-990,921	-62.1%
Total	181,640	-487,436	-72.9%	417,089	-502,376	-54.6%	22,638	-125,819	-84.8%	621,367	-1,115,631	-64.2%
Sockeye												
Non-tribal												
Marine Net	0	-1,371,063	-100.0%	0	0	0.0%	0	0	0.0%	0	-1,371,063	-100.0%
Tribal												
Marine Net	0	-1,421,186	-100.0%	0	0	0.0%	0	-146,890	-100.0%	0	-1,568,076	-100.0%
Freshwater Net	0	-1,283	-100.0%	0	-244,701	-100.0%	0	0	0.0%	0	-245,984	-100.0%
Tribal Subtotal	0	-1,422,469	-100.0%	0	-244,701	-100.0%	0	-146,890	-100.0%	0	-1,814,059	-100.0%
Total	0	-2,793,531	-100.0%	0	-244,701	-100.0%	0	-146,890	-100.0%	0	-3,185,122	-100.0%
Pink												
Non-tribal												
Marine Net	0	-2,729,641	-100.0%	0	-17,053	-100.0%	0	0	0.0%	0	-2,746,694	-100.0%
Tribal												
Marine Net	0	-2,630,994	-100.0%	0	-110,392	-100.0%	0	-5,276	-100.0%	0	-2,746,662	-100.0%
Freshwater Net	330,264	146,392	79.6%	103,388	102,714	15257.6%	0	0	0.0%	433,652	249,106	135.0%
Tribal Subtotal	330,264	-2,484,602	-88.3%	103,388	-7,678	-6.9%	0	-5,276	-100.0%	433,652	-2,497,556	-85.2%
Total	330,264	-5,214,243	-94.0%	103,388	-24,731	-19.3%	0	-5,276	-100.0%	433,652	-5,244,250	-92.4%
Chum												
Non-tribal												
Marine Net	0	-1,054,515	-100.0%	0	-2,433,134	-100.0%	0	0	0.0%	0	-3,487,649	-100.0%
Tribal												
Marine Net	0	-887,556	-100.0%	0	-2,045,578	-100.0%	0	-94,468	-100.0%	0	-3,027,602	-100.0%
Freshwater Net	20,069	-579,421	-96.7%	1,631,436	771,160	89.6%	22	22	0.0%	1,651,527	191,761	13.1%
Tribal Subtotal	20,069	-1,466,977	-98.7%	1,631,436	-1,274,418	-43.9%	22	-94,446	-100.0%	1,651,527	-2,835,841	-63.2%
Total	20,069	-2,521,492	-99.2%	1,631,436	-3,707,552	-69.4%	22	-94,446	-100.0%	1,651,527	-6,323,489	-79.3%
Steelhead												
Non-tribal												
Marine Net	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tribal												
Marine Net	0	-2,166	-100.0%	0	-54	-100.0%	0	-914	-100.0%	0	-3,133	-100.0%
Freshwater Net	1,578	-160	-9.2%	4,538	-21	-0.5%	4,240	-70	-1.6%	10,356	-250	-2.4%
Tribal Subtotal	1,578	-2,326	-59.6%	4,538	-75	-1.6%	4,240	-983	-18.8%	10,356	-3,384	-24.6%
Total	1,578	-2,326	-59.6%	4,538	-75	-1.6%	4,240	-983	-18.8%	10,356	-3,384	-24.6%
Total												
Non-tribal												
Marine Net	3,032	-5,530,343	-99.9%	0	-2,516,170	-100.0%	13,340	2,420	22.2%	16,372	-8,044,092	-99.8%
Tribal												
Marine Net	100,725	-5,616,837	-98.2%	0	-2,817,951	-100.0%	0	-388,017	-100.0%	100,725	-8,822,806	-98.9%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-18,692	-100.0%	0	-18,692	-100.0%
Freshwater Net	540,119	-434,019	-44.6%	2,685,646	740,751	38.1%	13,559	-523	-3.7%	3,239,325	306,209	10.4%
Tribal Subtotal	640,844	-6,050,857	-90.4%	2,685,646	-2,077,200	-43.6%	13,559	-407,232	-96.8%	3,340,050	-8,535,289	-71.9%
Total	643,875	-11,581,199	-94.7%	2,685,646	-4,593,370	-63.1%	26,900	-404,812	-93.8%	3,356,421	-16,579,381	-83.2%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-10. Estimated weight of commercial landings in round pounds in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	27	-286,346	-100.0%	0	-27,630	-100.0%	0	0	0.0%	27	-313,976	-100.0%
Tribal												
Marine Net	0	-350,258	-100.0%	0	-179,933	-100.0%	0	-17,942	-100.0%	0	-548,133	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-13,423	-100.0%	0	-13,423	-100.0%
Freshwater Net	0	-35,866	-100.0%	529,196	93,628	21.5%	0	-34	-100.0%	529,196	57,729	12.2%
Tribal Subtotal	0	-386,124	-100.0%	529,196	-86,305	-14.0%	0	-31,398	-100.0%	529,196	-503,827	-48.8%
Total	27	-672,470	-100.0%	529,196	-113,935	-17.7%	0	-31,398	-100.0%	529,222	-817,803	-60.7%
Coho												
Non-tribal												
Marine Net	3,005	-88,778	-96.7%	0	-38,352	-100.0%	13,340	2,420	22.2%	16,345	-124,710	-88.4%
Tribal												
Marine Net	0	-425,403	-100.0%	0	-481,994	-100.0%	0	-122,528	-100.0%	0	-1,029,925	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-5,269	-100.0%	0	-5,269	-100.0%
Freshwater Net	771	-151,119	-99.5%	417,089	17,970	4.5%	9,298	-442	-4.5%	427,158	-133,591	-23.8%
Tribal Subtotal	771	-576,522	-99.9%	417,089	-464,024	-52.7%	9,298	-128,239	-93.2%	427,158	-1,168,785	-73.2%
Total	3,776	-665,300	-99.4%	417,089	-502,376	-54.6%	22,638	-125,819	-84.8%	443,503	-1,293,495	-74.5%
Sockeye												
Non-tribal												
Marine Net	0	-1,371,063	-100.0%	0	0	0.0%	0	0	0.0%	0	-1,371,063	-100.0%
Tribal												
Marine Net	0	-1,421,186	-100.0%	0	0	0.0%	0	-146,890	-100.0%	0	-1,568,076	-100.0%
Freshwater Net	0	-1,283	-100.0%	0	-244,701	-100.0%	0	0	0.0%	0	-245,984	-100.0%
Tribal Subtotal	0	-1,422,469	-100.0%	0	-244,701	-100.0%	0	-146,890	-100.0%	0	-1,814,059	-100.0%
Total	0	-2,793,531	-100.0%	0	-244,701	-100.0%	0	-146,890	-100.0%	0	-3,185,122	-100.0%
Pink												
Non-tribal												
Marine Net	0	-2,729,641	-100.0%	0	-17,053	-100.0%	0	0	0.0%	0	-2,746,694	-100.0%
Tribal												
Marine Net	0	-2,630,994	-100.0%	0	-110,392	-100.0%	0	-5,276	-100.0%	0	-2,746,662	-100.0%
Freshwater Net	0	-183,872	-100.0%	103,388	102,714	15257.6%	0	0	0.0%	103,388	-81,158	-44.0%
Tribal Subtotal	0	-2,814,866	-100.0%	103,388	-7,678	-6.9%	0	-5,276	-100.0%	103,388	-2,827,820	-96.5%
Total	0	-5,544,507	-100.0%	103,388	-24,731	-19.3%	0	-5,276	-100.0%	103,388	-5,574,514	-98.2%
Chum												
Non-tribal												
Marine Net	0	-1,054,515	-100.0%	0	-2,433,134	-100.0%	0	0	0.0%	0	-3,487,649	-100.0%
Tribal												
Marine Net	0	-887,556	-100.0%	0	-2,045,578	-100.0%	0	-94,468	-100.0%	0	-3,027,602	-100.0%
Freshwater Net	11,733	-587,757	-98.0%	1,631,436	771,160	89.6%	22	22	0.0%	1,643,190	183,425	12.6%
Tribal Subtotal	11,733	-1,475,313	-99.2%	1,631,436	-1,274,418	-43.9%	22	-94,446	-100.0%	1,643,190	-2,844,177	-63.4%
Total	11,733	-2,529,828	-99.5%	1,631,436	-3,707,552	-69.4%	22	-94,446	-100.0%	1,643,190	-6,331,826	-79.4%
Steelhead												
Non-tribal												
Marine Net	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tribal												
Marine Net	0	-2,166	-100.0%	0	-54	-100.0%	0	-914	-100.0%	0	-3,133	-100.0%
Freshwater Net	1,578	-160	-9.2%	4,538	-21	-0.5%	4,240	-70	-1.6%	10,356	-250	-2.4%
Tribal Subtotal	1,578	-2,326	-59.6%	4,538	-75	-1.6%	4,240	-983	-18.8%	10,356	-3,384	-24.6%
Total	1,578	-2,326	-59.6%	4,538	-75	-1.6%	4,240	-983	-18.8%	10,356	-3,384	-24.6%
Total												
Non-tribal												
Marine Net	3,032	-5,530,343	-99.9%	0	-2,516,170	-100.0%	13,340	2,420	22.2%	16,372	-8,044,092	-99.8%
Tribal												
Marine Net	0	-5,717,562	-100.0%	0	-2,817,951	-100.0%	0	-388,017	-100.0%	0	-8,923,531	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-18,692	-100.0%	0	-18,692	-100.0%
Freshwater Net	14,081	-960,057	-98.6%	2,685,646	740,751	38.1%	13,559	-523	-3.7%	2,713,287	-219,829	-7.5%
Tribal Subtotal	14,081	-6,677,620	-99.8%	2,685,646	-2,077,200	-43.6%	13,559	-407,232	-96.8%	2,713,287	-9,162,052	-77.2%
Total	17,113	-12,207,962	-99.9%	2,685,646	-4,593,370	-63.1%	26,900	-404,812	-93.8%	2,729,659	-17,206,144	-86.3%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-10. Estimated weight of commercial landings in round pounds in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0	-286,373	-100.0%	0	-27,630	-100.0%	0	0	0.0%	0	-314,003	-100.0%
Tribal												
Marine Net	0	-350,258	-100.0%	0	-179,933	-100.0%	0	-17,942	-100.0%	0	-548,133	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-13,423	-100.0%	0	-13,423	-100.0%
Freshwater Net	0	-35,866	-100.0%	0	-435,568	-100.0%	0	-34	-100.0%	0	-471,467	-100.0%
Tribal Subtotal	0	-386,124	-100.0%	0	-615,501	-100.0%	0	-31,398	-100.0%	0	-1,033,023	-100.0%
Total	0	-672,497	-100.0%	0	-643,131	-100.0%	0	-31,398	-100.0%	0	-1,347,026	-100.0%
Coho												
Non-tribal												
Marine Net	0	-91,783	-100.0%	0	-38,352	-100.0%	0	-10,920	-100.0%	0	-141,055	-100.0%
Tribal												
Marine Net	0	-425,403	-100.0%	0	-481,994	-100.0%	0	-122,528	-100.0%	0	-1,029,925	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-5,269	-100.0%	0	-5,269	-100.0%
Freshwater Net	0	-151,890	-100.0%	0	-399,119	-100.0%	0	-9,740	-100.0%	0	-560,749	-100.0%
Tribal Subtotal	0	-577,293	-100.0%	0	-881,113	-100.0%	0	-137,537	-100.0%	0	-1,595,943	-100.0%
Total	0	-669,076	-100.0%	0	-919,465	-100.0%	0	-148,457	-100.0%	0	-1,736,998	-100.0%
Sockeye												
Non-tribal												
Marine Net	0	-1,371,063	-100.0%	0	0	0.0%	0	0	0.0%	0	-1,371,063	-100.0%
Tribal												
Marine Net	0	-1,421,186	-100.0%	0	0	0.0%	0	-146,890	-100.0%	0	-1,568,076	-100.0%
Freshwater Net	0	-1,283	-100.0%	0	-244,701	-100.0%	0	0	0.0%	0	-245,984	-100.0%
Tribal Subtotal	0	-1,422,469	-100.0%	0	-244,701	-100.0%	0	-146,890	-100.0%	0	-1,814,059	-100.0%
Total	0	-2,793,531	-100.0%	0	-244,701	-100.0%	0	-146,890	-100.0%	0	-3,185,122	-100.0%
Pink												
Non-tribal												
Marine Net	0	-2,729,641	-100.0%	0	-17,053	-100.0%	0	0	0.0%	0	-2,746,694	-100.0%
Tribal												
Marine Net	0	-2,630,994	-100.0%	0	-110,392	-100.0%	0	-5,276	-100.0%	0	-2,746,662	-100.0%
Freshwater Net	0	-183,872	-100.0%	0	-673	-100.0%	0	0	0.0%	0	-184,546	-100.0%
Tribal Subtotal	0	-2,814,866	-100.0%	0	-111,066	-100.0%	0	-5,276	-100.0%	0	-2,931,208	-100.0%
Total	0	-5,544,507	-100.0%	0	-128,119	-100.0%	0	-5,276	-100.0%	0	-5,677,902	-100.0%
Chum												
Non-tribal												
Marine Net	0	-1,054,515	-100.0%	0	-2,433,134	-100.0%	0	0	0.0%	0	-3,487,649	-100.0%
Tribal												
Marine Net	0	-887,556	-100.0%	0	-2,045,578	-100.0%	0	-94,468	-100.0%	0	-3,027,602	-100.0%
Freshwater Net	11,733	-587,757	-98.0%	407,825	-452,450	-52.6%	22	22	0.0%	419,580	-1,040,186	-71.3%
Tribal Subtotal	11,733	-1,475,313	-99.2%	407,825	-2,498,028	-86.0%	22	-94,446	-100.0%	419,580	-4,067,787	-90.6%
Total	11,733	-2,529,828	-99.5%	407,825	-4,931,162	-92.4%	22	-94,446	-100.0%	419,580	-7,555,436	-94.7%
Steelhead												
Non-tribal												
Marine Net	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tribal												
Marine Net	0	-2,166	-100.0%	0	-54	-100.0%	0	-914	-100.0%	0	-3,133	-100.0%
Freshwater Net	1,578	-160	-9.2%	3,558	-1,001	-22.0%	4,233	-76	-1.8%	9,369	-1,237	-11.7%
Tribal Subtotal	1,578	-2,326	-59.6%	3,558	-1,055	-22.9%	4,233	-990	-19.0%	9,369	-4,371	-31.8%
Total	1,578	-2,326	-59.6%	3,558	-1,055	-22.9%	4,233	-990	-19.0%	9,369	-4,371	-31.8%
Total												
Non-tribal												
Marine Net	0	-5,533,374	-100.0%	0	-2,516,170	-100.0%	0	-10,920	-100.0%	0	-8,060,464	-100.0%
Tribal												
Marine Net	0	-5,717,562	-100.0%	0	-2,817,951	-100.0%	0	-388,017	-100.0%	0	-8,923,531	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-18,692	-100.0%	0	-18,692	-100.0%
Freshwater Net	13,310	-960,828	-98.6%	411,384	-1,533,512	-78.8%	4,255	-9,828	-69.8%	428,949	-2,504,168	-85.4%
Tribal Subtotal	13,310	-6,678,390	-99.8%	411,384	-4,351,463	-91.4%	4,255	-416,537	-99.0%	428,949	-11,446,390	-96.4%
Total	13,310	-12,211,764	-99.9%	411,384	-6,867,633	-94.3%	4,255	-427,457	-99.0%	428,949	-19,506,854	-97.8%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-11. Estimated ex-vessel value of commercial landings (in 2002 dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with Maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

Specie	Ex-Vessel Price Per Round Pound	Alternative 1 - Proposed Action/Status Quo			
		North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook					
Non-tribal					
Marine Net	$0.81	$231,962	$22,380	$0	$254,342
Tribal					
Marine Net	$0.81	$283,709	$145,746	$14,533	$443,988
Marine Troll	$0.81	$0	$0	$10,873	$10,873
Freshwater Net	$0.63	$22,595	$274,408	$21	$297,024
Tribal Subtotal	NA	$306,304	$420,154	$25,427	$751,885
Total	NA	$538,266	$442,534	$25,427	$1,006,227
Coho					
Non-tribal					
Marine Net	$0.47	$43,138	$18,026	$5,132	$66,296
Tribal					
Marine Net	$0.47	$199,939	$226,537	$57,588	$484,065
Marine Troll	$0.47	$0	$0	$2,476	$2,476
Freshwater Net	$0.41	$62,275	$163,639	$3,993	$229,907
Tribal Subtotal	NA	$262,214	$390,176	$64,058	$716,448
Total	NA	$305,352	$408,202	$69,190	$782,744
Sockeye					
Non-tribal					
Marine Net	$1.20	$1,645,275	$0	$0	$1,645,275
Tribal					
Marine Net	$1.20	$1,705,423	$0	$176,268	$1,881,691
Freshwater Net	$0.82	$1,052	$200,655	$0	$201,706
Tribal Subtotal	NA	$1,706,475	$200,655	$176,268	$2,083,397
Total	NA	$3,351,750	$200,655	$176,268	$3,728,672
Pink					
Non-tribal					
Marine Net	$0.17	$464,039	$2,899	$0	$466,938
Tribal					
Marine Net	$0.17	$447,269	$18,767	$897	$466,933
Freshwater Net	$0.15	$27,581	$101	$0	$27,682
Tribal Subtotal	NA	$474,850	$18,868	$897	$494,614
Total	NA	$938,889	$21,767	$897	$961,552
Chum					
Non-tribal					
Marine Net	$0.24	$253,084	$583,952	$0	$837,036
Tribal					
Marine Net	$0.24	$213,013	$490,939	$22,672	$726,624
Freshwater Net	$0.24	$143,878	$206,466	$0	$350,344
Tribal Subtotal	NA	$356,891	$697,405	$22,672	$1,076,968
Total	NA	$609,975	$1,281,357	$22,672	$1,914,004
Steelhead					
Non-tribal					
Marine Net	$0.77	$0	$0	$0	$0
Tribal					
Marine Net	$0.77	$1,668	$41	$704	$2,413
Freshwater Net	$0.67	$1,164	$3,055	$2,887	$7,106
Tribal Subtotal	NA	$2,832	$3,096	$3,591	$9,519
Total	NA	$2,832	$3,096	$3,591	$9,519
Total					
Non-tribal					
Marine Net	NA	2,637,498	627,257	5,132	3,269,887
Tribal					
Marine Net	NA	2,851,022	882,030	272,661	4,005,713
Marine Troll	NA	0	0	13,349	13,349
Freshwater Net	NA	258,545	848,323	6,902	1,113,769
Tribal Subtotal	NA	3,109,566	1,730,353	292,912	5,132,831
Total	NA	5,747,064	2,357,610	298,044	8,402,718

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-11. Estimated ex-vessel value of commercial landings (in 2002 dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with Maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$22	-$231,941	-100.0%	$0	-$22,380	-100.0%	$0	$0	0.0%	$22	-$254,321	-100.0%
Tribal												
Marine Net	$81,587	-$202,122	-71.2%	$0	-$145,746	-100.0%	$0	-$14,533	-100.0%	$81,587	-$362,400	-81.6%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$10,873	-100.0%	$0	-$10,873	-100.0%
Freshwater Net	$6,031	-$16,564	-73.3%	$333,393	$58,986	21.5%	$0	-$21	-100.0%	$339,424	$42,400	14.3%
Tribal Subtotal	$87,618	-$218,686	-71.4%	$333,393	-$86,760	-20.6%	$0	-$25,427	-100.0%	$421,012	-$330,873	-44.0%
Total	$87,640	-$450,627	-83.7%	$333,393	-$109,140	-24.7%	$0	-$25,427	-100.0%	$421,033	-$585,194	-58.2%
Coho												
Non-tribal												
Marine Net	$1,412	-$41,726	-96.7%	$0	-$18,026	-100.0%	$6,270	$1,138	22.2%	$7,682	-$58,614	-88.4%
Tribal												
Marine Net	$0	-$199,939	-100.0%	$0	-$226,537	-100.0%	$0	-$57,588	-100.0%	$0	-$484,065	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,476	-100.0%	$0	-$2,476	-100.0%
Freshwater Net	$73,241	$10,966	17.6%	$171,006	$7,368	4.5%	$3,812	-$181	-4.5%	$248,059	$18,152	7.9%
Tribal Subtotal	$73,241	-$188,974	-72.1%	$171,006	-$219,170	-56.2%	$3,812	-$60,246	-94.0%	$248,059	-$468,389	-65.4%
Total	$74,653	-$230,700	-75.6%	$171,006	-$237,195	-58.1%	$10,082	-$59,108	-85.4%	$255,741	-$527,003	-67.3%
Sockeye												
Non-tribal												
Marine Net	$0	-$1,645,275	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$1,645,275	-100.0%
Tribal												
Marine Net	$0	-$1,705,423	-100.0%	$0	$0	0.0%	$0	-$176,268	-100.0%	$0	-$1,881,691	-100.0%
Freshwater Net	$0	-$1,052	-100.0%	$0	-$200,655	-100.0%	$0	$0	0.0%	$0	-$201,706	-100.0%
Tribal Subtotal	$0	-$1,706,475	-100.0%	$0	-$200,655	-100.0%	$0	-$176,268	-100.0%	$0	-$2,083,397	-100.0%
Total	$0	-$3,351,750	-100.0%	$0	-$200,655	-100.0%	$0	-$176,268	-100.0%	$0	-$3,728,672	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$464,039	-100.0%	$0	-$2,899	-100.0%	$0	$0	0.0%	$0	-$466,938	-100.0%
Tribal												
Marine Net	$0	-$447,269	-100.0%	$0	-$18,767	-100.0%	$0	-$897	-100.0%	$0	-$466,933	-100.0%
Freshwater Net	$49,540	$21,959	79.6%	$15,508	$15,407	15257.6%	$0	$0	0.0%	$65,048	$37,366	135.0%
Tribal Subtotal	$49,540	-$425,310	-89.6%	$15,508	-$3,360	-17.8%	$0	-$897	-100.0%	$65,048	-$429,567	-86.8%
Total	$49,540	-$889,349	-94.7%	$15,508	-$6,259	-28.8%	$0	-$897	-100.0%	$65,048	-$896,505	-93.2%
Chum												
Non-tribal												
Marine Net	$0	-$253,084	-100.0%	$0	-$583,952	-100.0%	$0	$0	0.0%	$0	-$837,036	-100.0%
Tribal												
Marine Net	$0	-$213,013	-100.0%	$0	-$490,939	-100.0%	$0	-$22,672	-100.0%	$0	-$726,624	-100.0%
Freshwater Net	$4,817	-$139,061	-96.7%	$391,545	$185,078	89.6%	$5	$5	0.0%	$396,366	$46,023	13.1%
Tribal Subtotal	$4,817	-$352,075	-98.7%	$391,545	-$305,860	-43.9%	$5	-$22,667	-100.0%	$396,366	-$680,602	-63.2%
Total	$4,817	-$605,158	-99.2%	$391,545	-$889,812	-69.4%	$5	-$22,667	-100.0%	$396,366	-$1,517,637	-79.3%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$1,668	-100.0%	$0	-$41	-100.0%	$0	-$704	-100.0%	$0	-$2,413	-100.0%
Freshwater Net	$1,057	-$107	-9.2%	$3,041	-$14	-0.5%	$2,840	-$47	-1.6%	$6,938	-$168	-2.4%
Tribal Subtotal	$1,057	-$1,775	-62.7%	$3,041	-$55	-1.8%	$2,840	-$750	-20.9%	$6,938	-$2,580	-27.1%
Total	$1,057	-$1,775	-62.7%	$3,041	-$55	-1.8%	$2,840	-$750	-20.9%	$6,938	-$2,580	-27.1%
Total												
Non-tribal												
Marine Net	1,434	-2,636,064	-99.9%	0	-627,257	-100.0%	6,270	1,138	22.2%	7,704	-3,262,183	-99.8%
Tribal												
Marine Net	81,587	-2,769,434	-97.1%	0	-882,030	-100.0%	0	-272,661	-100.0%	81,587	-3,924,126	-98.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-13,349	-100.0%	0	-13,349	-100.0%
Freshwater Net	134,685	-123,860	-47.9%	914,493	66,170	7.8%	6,658	-244	-3.5%	1,055,836	-57,933	-5.2%
Tribal Subtotal	216,272	-2,893,294	-93.0%	914,493	-815,860	-47.1%	6,658	-286,254	-97.7%	1,137,423	-3,995,408	-77.8%
Total	217,706	-5,529,358	-96.2%	914,493	-1,443,117	-61.2%	12,928	-285,117	-95.7%	1,145,127	-7,257,591	-86.4%

Table D-11. Estimated ex-vessel value of commercial landings (in 2002 dollars) in the economic regions with implementation of the alternatives. Scenario B: 2003 abundance with Maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$22	-$231,941	-100.0%	$0	-$22,380	-100.0%	$0	$0	0.0%	$22	-$254,321	-100.0%
Tribal												
Marine Net	$0	-$283,709	-100.0%	$0	-$145,746	-100.0%	$0	-$14,533	-100.0%	$0	-$443,988	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$10,873	-100.0%	$0	-$10,873	-100.0%
Freshwater Net	$0	-$22,595	-100.0%	$333,393	$58,986	21.5%	$0	-$21	-100.0%	$333,393	$36,369	12.2%
Tribal Subtotal	$0	-$306,304	-100.0%	$333,393	-$86,760	-20.6%	$0	-$25,427	-100.0%	$333,393	-$418,491	-55.7%
Total	$22	-$538,245	-100.0%	$333,393	-$109,140	-24.7%	$0	-$25,427	-100.0%	$333,415	-$672,812	-66.9%
Coho												
Non-tribal												
Marine Net	$1,412	-$41,726	-96.7%	$0	-$18,026	-100.0%	$6,270	$1,138	22.2%	$7,682	-$58,614	-88.4%
Tribal												
Marine Net	$0	-$199,939	-100.0%	$0	-$226,537	-100.0%	$0	-$57,588	-100.0%	$0	-$484,065	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,476	-100.0%	$0	-$2,476	-100.0%
Freshwater Net	$316	-$61,959	-99.5%	$171,006	$7,368	4.5%	$3,812	-$181	-4.5%	$175,135	-$54,772	-23.8%
Tribal Subtotal	$316	-$261,898	-99.9%	$171,006	-$219,170	-56.2%	$3,812	-$60,246	-94.0%	$175,135	-$541,314	-75.6%
Total	$1,728	-$303,624	-99.4%	$171,006	-$237,195	-58.1%	$10,082	-$59,108	-85.4%	$182,817	-$599,927	-76.6%
Sockeye												
Non-tribal												
Marine Net	$0	-$1,645,275	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$1,645,275	-100.0%
Tribal												
Marine Net	$0	-$1,705,423	-100.0%	$0	$0	0.0%	$0	-$176,268	-100.0%	$0	-$1,881,691	-100.0%
Freshwater Net	$0	-$1,052	-100.0%	$0	-$200,655	-100.0%	$0	$0	0.0%	$0	-$201,706	-100.0%
Tribal Subtotal	$0	-$1,706,475	-100.0%	$0	-$200,655	-100.0%	$0	-$176,268	-100.0%	$0	-$2,083,397	-100.0%
Total	$0	-$3,351,750	-100.0%	$0	-$200,655	-100.0%	$0	-$176,268	-100.0%	$0	-$3,728,672	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$464,039	-100.0%	$0	-$2,899	-100.0%	$0	$0	0.0%	$0	-$466,938	-100.0%
Tribal												
Marine Net	$0	-$447,269	-100.0%	$0	-$18,767	-100.0%	$0	-$897	-100.0%	$0	-$466,933	-100.0%
Freshwater Net	$0	-$27,581	-100.0%	$15,508	$15,407	15257.6%	$0	$0	0.0%	$15,508	-$12,174	-44.0%
Tribal Subtotal	$0	-$474,850	-100.0%	$15,508	-$3,360	-17.8%	$0	-$897	-100.0%	$15,508	-$479,106	-96.9%
Total	$0	-$938,889	-100.0%	$15,508	-$6,259	-28.8%	$0	-$897	-100.0%	$15,508	-$946,044	-98.4%
Chum												
Non-tribal												
Marine Net	$0	-$253,084	-100.0%	$0	-$583,952	-100.0%	$0	$0	0.0%	$0	-$837,036	-100.0%
Tribal												
Marine Net	$0	-$213,013	-100.0%	$0	-$490,939	-100.0%	$0	-$22,672	-100.0%	$0	-$726,624	-100.0%
Freshwater Net	$2,816	-$141,062	-98.0%	$391,545	$185,078	89.6%	$5	$5	0.0%	$394,366	$44,022	12.6%
Tribal Subtotal	$2,816	-$354,075	-99.2%	$391,545	-$305,860	-43.9%	$5	-$22,667	-100.0%	$394,366	-$682,602	-63.4%
Total	$2,816	-$607,159	-99.5%	$391,545	-$889,812	-69.4%	$5	-$22,667	-100.0%	$394,366	-$1,519,638	-79.4%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$1,668	-100.0%	$0	-$41	-100.0%	$0	-$704	-100.0%	$0	-$2,413	-100.0%
Freshwater Net	$1,057	-$107	-9.2%	$3,041	-$14	-0.5%	$2,840	-$47	-1.6%	$6,938	-$168	-2.4%
Tribal Subtotal	$1,057	-$1,775	-62.7%	$3,041	-$55	-1.8%	$2,840	-$750	-20.9%	$6,938	-$2,580	-27.1%
Total	$1,057	-$1,775	-62.7%	$3,041	-$55	-1.8%	$2,840	-$750	-20.9%	$6,938	-$2,580	-27.1%
Total												
Non-tribal												
Marine Net	1,434	-2,636,064	-99.9%	0	-627,257	-100.0%	6,270	1,138	22.2%	7,704	-3,262,183	-99.8%
Tribal												
Marine Net	0	-2,851,022	-100.0%	0	-882,030	-100.0%	0	-272,661	-100.0%	0	-4,005,713	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-13,349	-100.0%	0	-13,349	-100.0%
Freshwater Net	4,189	-254,356	-98.4%	914,493	66,170	7.8%	6,658	-244	-3.5%	925,340	-188,429	-16.9%
Tribal Subtotal	4,189	-3,105,377	-99.9%	914,493	-815,860	-47.1%	6,658	-286,254	-97.7%	925,340	-4,207,491	-82.0%
Total	5,623	-5,741,441	-99.9%	914,493	-1,443,117	-61.2%	12,928	-285,117	-95.7%	933,044	-7,469,674	-88.9%

Table D-11. Estimated ex-vessel value of commercial landings (in 2002 dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with Maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$0	-$231,962	-100.0%	$0	-$22,380	-100.0%	$0	$0	0.0%	$0	-$254,342	-100.0%
Tribal												
Marine Net	$0	-$283,709	-100.0%	$0	-$145,746	-100.0%	$0	-$14,533	-100.0%	$0	-$443,988	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$10,873	-100.0%	$0	-$10,873	-100.0%
Freshwater Net	$0	-$22,595	-100.0%	$0	-$274,408	-100.0%	$0	-$21	-100.0%	$0	-$297,024	-100.0%
Tribal Subtotal	$0	-$306,304	-100.0%	$0	-$420,154	-100.0%	$0	-$25,427	-100.0%	$0	-$751,885	-100.0%
Total	$0	-$538,266	-100.0%	$0	-$442,534	-100.0%	$0	-$25,427	-100.0%	$0	-$1,006,227	-100.0%
Coho												
Non-tribal												
Marine Net	$0	-$43,138	-100.0%	$0	-$18,026	-100.0%	$0	-$5,132	-100.0%	$0	-$66,296	-100.0%
Tribal												
Marine Net	$0	-$199,939	-100.0%	$0	-$226,537	-100.0%	$0	-$57,588	-100.0%	$0	-$484,065	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,476	-100.0%	$0	-$2,476	-100.0%
Freshwater Net	$0	-$62,275	-100.0%	$0	-$163,639	-100.0%	$0	-$3,993	-100.0%	$0	-$229,907	-100.0%
Tribal Subtotal	$0	-$262,214	-100.0%	$0	-$390,176	-100.0%	$0	-$64,058	-100.0%	$0	-$716,448	-100.0%
Total	$0	-$305,352	-100.0%	$0	-$408,202	-100.0%	$0	-$69,190	-100.0%	$0	-$782,744	-100.0%
Sockeye												
Non-tribal												
Marine Net	$0	-$1,645,275	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$1,645,275	-100.0%
Tribal												
Marine Net	$0	-$1,705,423	-100.0%	$0	$0	0.0%	$0	-$176,268	-100.0%	$0	-$1,881,691	-100.0%
Freshwater Net	$0	-$1,052	-100.0%	$0	-$200,655	-100.0%	$0	$0	0.0%	$0	-$201,706	-100.0%
Tribal Subtotal	$0	-$1,706,475	-100.0%	$0	-$200,655	-100.0%	$0	-$176,268	-100.0%	$0	-$2,083,397	-100.0%
Total	$0	-$3,351,750	-100.0%	$0	-$200,655	-100.0%	$0	-$176,268	-100.0%	$0	-$3,728,672	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$464,039	-100.0%	$0	-$2,899	-100.0%	$0	$0	0.0%	$0	-$466,938	-100.0%
Tribal												
Marine Net	$0	-$447,269	-100.0%	$0	-$18,767	-100.0%	$0	-$897	-100.0%	$0	-$466,933	-100.0%
Freshwater Net	$0	-$27,581	-100.0%	$0	-$101	-100.0%	$0	$0	0.0%	$0	-$27,682	-100.0%
Tribal Subtotal	$0	-$474,850	-100.0%	$0	-$18,868	-100.0%	$0	-$897	-100.0%	$0	-$494,614	-100.0%
Total	$0	-$938,889	-100.0%	$0	-$21,767	-100.0%	$0	-$897	-100.0%	$0	-$961,552	-100.0%
Chum												
Non-tribal												
Marine Net	$0	-$253,084	-100.0%	$0	-$583,952	-100.0%	$0	$0	0.0%	$0	-$837,036	-100.0%
Tribal												
Marine Net	$0	-$213,013	-100.0%	$0	-$490,939	-100.0%	$0	-$22,672	-100.0%	$0	-$726,624	-100.0%
Freshwater Net	$2,816	-$141,062	-98.0%	$97,878	-$108,588	-52.6%	$5	$5	0.0%	$100,699	-$249,645	-71.3%
Tribal Subtotal	$2,816	-$354,075	-99.2%	$97,878	-$599,527	-86.0%	$5	-$22,667	-100.0%	$100,699	-$976,269	-90.6%
Total	$2,816	-$607,159	-99.5%	$97,878	-$1,183,479	-92.4%	$5	-$22,667	-100.0%	$100,699	-$1,813,305	-94.7%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$1,668	-100.0%	$0	-$41	-100.0%	$0	-$704	-100.0%	$0	-$2,413	-100.0%
Freshwater Net	$1,057	-$107	-9.2%	$2,384	-$671	-22.0%	$2,836	-$51	-1.8%	$6,277	-$829	-11.7%
Tribal Subtotal	$1,057	-$1,775	-62.7%	$2,384	-$712	-23.0%	$2,836	-$755	-21.0%	$6,277	-$3,242	-34.1%
Total	$1,057	-$1,775	-62.7%	$2,384	-$712	-23.0%	$2,836	-$755	-21.0%	$6,277	-$3,242	-34.1%
Total												
Non-tribal												
Marine Net	0	-2,637,498	-100.0%	0	-627,257	-100.0%	0	-5,132	-100.0%	0	-3,269,887	-100.0%
Tribal												
Marine Net	0	-2,851,022	-100.0%	0	-882,030	-100.0%	0	-272,661	-100.0%	0	-4,005,713	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-13,349	-100.0%	0	-13,349	-100.0%
Freshwater Net	3,873	-254,672	-98.5%	100,262	-748,061	-88.2%	2,841	-4,061	-58.8%	106,976	-1,006,793	-90.4%
Tribal Subtotal	3,873	-3,105,693	-99.9%	100,262	-1,630,091	-94.2%	2,841	-290,071	-99.0%	106,976	-5,025,855	-97.9%
Total	3,873	-5,743,191	-99.9%	100,262	-2,257,348	-95.7%	2,841	-295,203	-99.0%	106,976	-8,295,742	-98.7%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-12. Estimated ex-processor value of commercial landings (in 2002 Dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Ex-Processor Price Per Round Pound			Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook							
Non-tribal							
Marine Net	$1.02	$1.34	$1.20	$292,100	$37,024	$0	$329,124
Tribal							
Marine Net	$1.02	$1.34	$1.20	$357,263	$241,111	$21,530	$619,904
Marine Troll	$1.34	$1.66	$1.52	$0	$0	$20,403	$20,403
Freshwater Net	$1.02	$1.34	$1.20	$36,583	$583,661	$41	$620,284
Tribal Subtotal	NA	NA	NA	$393,846	$824,771	$41,973	$1,260,591
Total	NA	NA	NA	$685,946	$861,795	$41,973	$1,589,715
Coho							
Non-tribal							
Marine Net	$0.94	$1.16	$1.00	$86,276	$44,489	$10,920	$141,685
Tribal							
Marine Net	$0.94	$1.16	$1.00	$399,879	$559,113	$122,528	$1,081,520
Marine Troll	$0.61	$0.61	$1.00	$0	$0	$5,269	$5,269
Freshwater Net	$0.94	$1.16	$1.00	$142,777	$462,978	$9,740	$615,494
Tribal Subtotal	NA	NA	NA	$542,655	$1,022,091	$137,537	$1,702,283
Total	NA	NA	NA	$628,932	$1,066,580	$148,457	$1,843,968
Sockeye							
Non-tribal							
Marine Net	$1.50	$1.50	$1.46	$2,056,594	$0	$0	$2,056,594
Tribal							
Marine Net	$1.50	$1.50	$1.46	$2,131,779	$0	$214,459	$2,346,238
Freshwater Net	$1.50	$1.50	$1.46	$1,924	$367,052	$0	$368,975
Tribal Subtotal	NA	NA	NA	$2,133,703	$367,052	$214,459	$2,715,213
Total	NA	NA	NA	$4,190,297	$367,052	$214,459	$4,771,807
Pink							
Non-tribal							
Marine Net	$0.71	$1.46	$1.31	$1,938,045	$24,898	$0	$1,962,943
Tribal							
Marine Net	$0.71	$1.46	$1.31	$1,868,006	$161,173	$6,912	$2,036,090
Freshwater Net	$0.71	$1.46	$1.31	$130,549	$983	$0	$131,532
Tribal Subtotal	NA	NA	NA	$1,998,555	$162,156	$6,912	$2,167,622
Total	NA	NA	NA	$3,936,600	$187,054	$6,912	$4,130,565
Chum							
Non-tribal							
Marine Net	$0.79	$0.76	$1.00	$833,067	$1,849,182	$0	$2,682,249
Tribal							
Marine Net	$0.79	$0.76	$1.00	$701,169	$1,554,639	$94,468	$2,350,276
Freshwater Net	$0.79	$0.76	$1.00	$473,597	$653,809	$0	$1,127,407
Tribal Subtotal	NA	NA	NA	$1,174,766	$2,208,448	$94,468	$3,477,683
Total	NA	NA	NA	$2,007,833	$4,057,630	$94,468	$6,159,931
Steelhead							
Non-tribal							
Marine Net	$0.71	$1.46	$1.31	$0	$0	$0	$0
Tribal							
Marine Net	$0.71	$1.46	$1.31	$1,538	$78	$1,197	$2,813
Freshwater Net	$0.71	$1.46	$1.31	$1,234	$6,656	$5,645	$13,535
Tribal Subtotal	NA	NA	NA	$2,771	$6,735	$6,842	$16,348
Total	NA	NA	NA	$2,771	$6,735	$6,842	$16,348
Total							
Non-tribal							
Marine Net	NA	NA	NA	5,206,082	1,955,593	10,920	7,172,595
Tribal							
Marine Net	NA	NA	NA	5,459,633	2,516,114	461,094	8,436,841
Marine Troll	NA	NA	NA	0	0	25,672	25,672
Freshwater Net	NA	NA	NA	786,664	2,075,139	15,425	2,877,228
Tribal Subtotal	NA	NA	NA	6,246,297	4,591,253	502,191	11,339,741
Total	NA	NA	NA	11,452,379	6,546,846	513,111	18,512,335

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-12. Estimated ex-processor value of commercial landings (in 2002 Dollars) in the economic regions with implementation of the alterantives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$27	-$292,073	-100.0%	$0	-$37,024	-100.0%	$0	$0	0.0%	$27	-$329,097	-100.0%
Tribal												
Marine Net	$102,739	-$254,524	-71.2%	$0	-$241,111	-100.0%	$0	-$21,530	-100.0%	$102,739	-$517,164	-83.4%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$20,403	-100.0%	$0	-$20,403	-100.0%
Freshwater Net	$9,765	-$26,818	-73.3%	$709,122	$125,462	21.5%	$0	-$41	-100.0%	$718,887	$98,603	15.9%
Tribal Subtotal	$112,504	-$281,342	-71.4%	$709,122	-$115,649	-14.0%	$0	-$41,973	-100.0%	$821,626	-$438,964	-34.8%
Total	$112,531	-$573,415	-83.6%	$709,122	-$152,673	-17.7%	$0	-$41,973	-100.0%	$821,654	-$768,062	-48.3%
Coho												
Non-tribal												
Marine Net	$2,825	-$83,451	-96.7%	$0	-$44,489	-100.0%	$13,340	$2,420	22.2%	$16,165	-$125,520	-88.6%
Tribal												
Marine Net	$0	-$399,879	-100.0%	$0	-$559,113	-100.0%	$0	-$122,528	-100.0%	$0	-$1,081,520	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$5,269	-100.0%	$0	-$5,269	-100.0%
Freshwater Net	$167,917	$25,140	17.6%	$483,823	$20,846	4.5%	$9,298	-$442	-4.5%	$661,038	$45,544	7.4%
Tribal Subtotal	$167,917	-$374,738	-69.1%	$483,823	-$538,268	-52.7%	$9,298	-$128,239	-93.2%	$661,038	-$1,041,245	-61.2%
Total	$170,742	-$458,190	-72.9%	$483,823	-$582,757	-54.6%	$22,638	-$125,819	-84.8%	$677,203	-$1,166,765	-63.3%
Sockeye												
Non-tribal												
Marine Net	$0	-$2,056,594	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,056,594	-100.0%
Tribal												
Marine Net	$0	-$2,131,779	-100.0%	$0	$0	0.0%	$0	-$214,459	-100.0%	$0	-$2,346,238	-100.0%
Freshwater Net	$0	-$1,924	-100.0%	$0	-$367,052	-100.0%	$0	$0	0.0%	$0	-$368,975	-100.0%
Tribal Subtotal	$0	-$2,133,703	-100.0%	$0	-$367,052	-100.0%	$0	-$214,459	-100.0%	$0	-$2,715,213	-100.0%
Total	$0	-$4,190,297	-100.0%	$0	-$367,052	-100.0%	$0	-$214,459	-100.0%	$0	-$4,771,807	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$1,938,045	-100.0%	$0	-$24,898	-100.0%	$0	$0	0.0%	$0	-$1,962,943	-100.0%
Tribal												
Marine Net	$0	-$1,868,006	-100.0%	$0	-$161,173	-100.0%	$0	-$6,912	-100.0%	$0	-$2,036,090	-100.0%
Freshwater Net	$234,487	$103,938	79.6%	$150,946	$149,963	15257.6%	$0	$0	0.0%	$385,433	$253,901	193.0%
Tribal Subtotal	$234,487	-$1,764,067	-88.3%	$150,946	-$11,210	-6.9%	$0	-$6,912	-100.0%	$385,433	-$1,782,189	-82.2%
Total	$234,487	-$3,702,112	-94.0%	$150,946	-$36,108	-19.3%	$0	-$6,912	-100.0%	$385,433	-$3,745,132	-90.7%
Chum												
Non-tribal												
Marine Net	$0	-$833,067	-100.0%	$0	-$1,849,182	-100.0%	$0	$0	0.0%	$0	-$2,682,249	-100.0%
Tribal												
Marine Net	$0	-$701,169	-100.0%	$0	-$1,554,639	-100.0%	$0	-$94,468	-100.0%	$0	-$2,350,276	-100.0%
Freshwater Net	$15,854	-$457,743	-96.7%	$1,239,891	$586,082	89.6%	$22	$22	0.0%	$1,255,768	$128,361	11.4%
Tribal Subtotal	$15,854	-$1,158,912	-98.7%	$1,239,891	-$968,557	-43.9%	$22	-$94,446	-100.0%	$1,255,768	-$2,221,915	-63.9%
Total	$15,854	-$1,991,979	-99.2%	$1,239,891	-$2,817,739	-69.4%	$22	-$94,446	-100.0%	$1,255,768	-$4,904,164	-79.6%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$1,538	-100.0%	$0	-$78	-100.0%	$0	-$1,197	-100.0%	$0	-$2,813	-100.0%
Freshwater Net	$1,120	-$113	-9.2%	$6,626	-$30	-0.5%	$5,554	-$91	-1.6%	$13,300	-$235	-1.7%
Tribal Subtotal	$1,120	-$1,651	-59.6%	$6,626	-$109	-1.6%	$5,554	-$1,288	-18.8%	$13,300	-$3,048	-18.6%
Total	$1,120	-$1,651	-59.6%	$6,626	-$109	-1.6%	$5,554	-$1,288	-18.8%	$13,300	-$3,048	-18.6%
Total												
Non-tribal												
Marine Net	2,852	-5,203,230	-99.9%	0	-1,955,593	-100.0%	13,340	2,420	22.2%	16,192	-7,156,403	-99.8%
Tribal												
Marine Net	102,739	-5,356,894	-98.1%	0	-2,516,114	-100.0%	0	-461,094	-100.0%	102,739	-8,334,102	-98.8%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-25,672	-100.0%	0	-25,672	-100.0%
Freshwater Net	429,144	-357,520	-45.4%	2,590,409	515,270	24.8%	14,874	-552	-3.6%	3,034,426	157,199	5.5%
Tribal Subtotal	531,883	-5,714,414	-91.5%	2,590,409	-2,000,844	-43.6%	14,874	-487,317	-97.0%	3,137,166	-8,202,575	-72.3%
Total	534,735	-10,917,644	-95.3%	2,590,409	-3,956,437	-60.4%	28,214	-484,897	-94.5%	3,153,358	-15,358,978	-83.0%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-12. Estimated ex-processor value of commercial landings (in 2002 Dollars) in the economic regions with implementation of the alterantives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$27	-$292,073	-100.0%	$0	-$37,024	-100.0%	$0	$0	0.0%	$27	-$329,097	-100.0%
Tribal												
Marine Net	$0	-$357,263	-100.0%	$0	-$241,111	-100.0%	$0	-$21,530	-100.0%	$0	-$619,904	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$20,403	-100.0%	$0	-$20,403	-100.0%
Freshwater Net	$0	-$36,583	-100.0%	$709,122	$125,462	21.5%	$0	-$41	-100.0%	$709,122	$88,838	14.3%
Tribal Subtotal	$0	-$393,846	-100.0%	$709,122	-$115,649	-14.0%	$0	-$41,973	-100.0%	$709,122	-$551,468	-43.7%
Total	$27	-$685,919	-100.0%	$709,122	-$152,673	-17.7%	$0	-$41,973	-100.0%	$709,150	-$880,566	-55.4%
Coho												
Non-tribal												
Marine Net	$2,825	-$83,451	-96.7%	$0	-$44,489	-100.0%	$13,340	$2,420	22.2%	$16,165	-$125,520	-88.6%
Tribal												
Marine Net	$0	-$399,879	-100.0%	$0	-$559,113	-100.0%	$0	-$122,528	-100.0%	$0	-$1,081,520	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$5,269	-100.0%	$0	-$5,269	-100.0%
Freshwater Net	$725	-$142,052	-99.5%	$483,823	$20,846	4.5%	$9,298	-$442	-4.5%	$493,845	-$121,649	-19.8%
Tribal Subtotal	$725	-$541,931	-99.9%	$483,823	-$538,268	-52.7%	$9,298	-$128,239	-93.2%	$493,845	-$1,208,438	-71.0%
Total	$3,549	-$625,382	-99.4%	$483,823	-$582,757	-54.6%	$22,638	-$125,819	-84.8%	$510,010	-$1,333,958	-72.3%
Sockeye												
Non-tribal												
Marine Net	$0	-$2,056,594	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,056,594	-100.0%
Tribal												
Marine Net	$0	-$2,131,779	-100.0%	$0	$0	0.0%	$0	-$214,459	-100.0%	$0	-$2,346,238	-100.0%
Freshwater Net	$0	-$1,924	-100.0%	$0	-$367,052	-100.0%	$0	$0	0.0%	$0	-$368,975	-100.0%
Tribal Subtotal	$0	-$2,133,703	-100.0%	$0	-$367,052	-100.0%	$0	-$214,459	-100.0%	$0	-$2,715,213	-100.0%
Total	$0	-$4,190,297	-100.0%	$0	-$367,052	-100.0%	$0	-$214,459	-100.0%	$0	-$4,771,807	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$1,938,045	-100.0%	$0	-$24,898	-100.0%	$0	$0	0.0%	$0	-$1,962,943	-100.0%
Tribal												
Marine Net	$0	-$1,868,006	-100.0%	$0	-$161,173	-100.0%	$0	-$6,912	-100.0%	$0	-$2,036,090	-100.0%
Freshwater Net	$0	-$130,549	-100.0%	$150,946	$149,963	15257.6%	$0	$0	0.0%	$150,946	$19,414	14.8%
Tribal Subtotal	$0	-$1,998,555	-100.0%	$150,946	-$11,210	-6.9%	$0	-$6,912	-100.0%	$150,946	-$2,016,676	-93.0%
Total	$0	-$3,936,600	-100.0%	$150,946	-$36,108	-19.3%	$0	-$6,912	-100.0%	$150,946	-$3,979,619	-96.3%
Chum												
Non-tribal												
Marine Net	$0	-$833,067	-100.0%	$0	-$1,849,182	-100.0%	$0	$0	0.0%	$0	-$2,682,249	-100.0%
Tribal												
Marine Net	$0	-$701,169	-100.0%	$0	-$1,554,639	-100.0%	$0	-$94,468	-100.0%	$0	-$2,350,276	-100.0%
Freshwater Net	$9,269	-$464,328	-98.0%	$1,239,891	$586,082	89.6%	$22	$22	0.0%	$1,249,182	$121,775	10.8%
Tribal Subtotal	$9,269	-$1,165,498	-99.2%	$1,239,891	-$968,557	-43.9%	$22	-$94,446	-100.0%	$1,249,182	-$2,228,501	-64.1%
Total	$9,269	-$1,998,564	-99.5%	$1,239,891	-$2,817,739	-69.4%	$22	-$94,446	-100.0%	$1,249,182	-$4,910,749	-79.7%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$1,538	-100.0%	$0	-$78	-100.0%	$0	-$1,197	-100.0%	$0	-$2,813	-100.0%
Freshwater Net	$1,120	-$113	-9.2%	$6,626	-$30	-0.5%	$5,554	-$91	-1.6%	$13,300	-$235	-1.7%
Tribal Subtotal	$1,120	-$1,651	-59.6%	$6,626	-$109	-1.6%	$5,554	-$1,288	-18.8%	$13,300	-$3,048	-18.6%
Total	$1,120	-$1,651	-59.6%	$6,626	-$109	-1.6%	$5,554	-$1,288	-18.8%	$13,300	-$3,048	-18.6%
Total												
Non-tribal												
Marine Net	2,852	-5,203,230	-99.9%	0	-1,955,593	-100.0%	13,340	2,420	22.2%	16,192	-7,156,403	-99.8%
Tribal												
Marine Net	0	-5,459,633	-100.0%	0	-2,516,114	-100.0%	0	-461,094	-100.0%	0	-8,436,841	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-25,672	-100.0%	0	-25,672	-100.0%
Freshwater Net	11,113	-775,550	-98.6%	2,590,409	515,270	24.8%	14,874	-552	-3.6%	2,616,396	-260,832	-9.1%
Tribal Subtotal	11,113	-6,235,184	-99.8%	2,590,409	-2,000,844	-43.6%	14,874	-487,317	-97.0%	2,616,396	-8,723,345	-76.9%
Total	13,965	-11,438,414	-99.9%	2,590,409	-3,956,437	-60.4%	28,214	-484,897	-94.5%	2,632,588	-15,879,747	-85.8%

Table D-12. Estimated ex-processor value of commercial landings (in 2002 Dollars) in the economic regions with implementation of the alterantives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$0	-$292,100	-100.0%	$0	-$37,024	-100.0%	$0	$0	0.0%	$0	-$329,124	-100.0%
Tribal												
Marine Net	$0	-$357,263	-100.0%	$0	-$241,111	-100.0%	$0	-$21,530	-100.0%	$0	-$619,904	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$20,403	-100.0%	$0	-$20,403	-100.0%
Freshwater Net	$0	-$36,583	-100.0%	$0	-$583,661	-100.0%	$0	-$41	-100.0%	$0	-$620,284	-100.0%
Tribal Subtotal	$0	-$393,846	-100.0%	$0	-$824,771	-100.0%	$0	-$41,973	-100.0%	$0	-$1,260,591	-100.0%
Total	$0	-$685,946	-100.0%	$0	-$861,795	-100.0%	$0	-$41,973	-100.0%	$0	-$1,589,715	-100.0%
Coho												
Non-tribal												
Marine Net	$0	-$86,276	-100.0%	$0	-$44,489	-100.0%	$0	-$10,920	-100.0%	$0	-$141,685	-100.0%
Tribal												
Marine Net	$0	-$399,879	-100.0%	$0	-$559,113	-100.0%	$0	-$122,528	-100.0%	$0	-$1,081,520	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$5,269	-100.0%	$0	-$5,269	-100.0%
Freshwater Net	$0	-$142,777	-100.0%	$0	-$462,978	-100.0%	$0	-$9,740	-100.0%	$0	-$615,494	-100.0%
Tribal Subtotal	$0	-$542,655	-100.0%	$0	-$1,022,091	-100.0%	$0	-$137,537	-100.0%	$0	-$1,702,283	-100.0%
Total	$0	-$628,932	-100.0%	$0	-$1,066,580	-100.0%	$0	-$148,457	-100.0%	$0	-$1,843,968	-100.0%
Sockeye												
Non-tribal												
Marine Net	$0	-$2,056,594	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,056,594	-100.0%
Tribal												
Marine Net	$0	-$2,131,779	-100.0%	$0	$0	0.0%	$0	-$214,459	-100.0%	$0	-$2,346,238	-100.0%
Freshwater Net	$0	-$1,924	-100.0%	$0	-$367,052	-100.0%	$0	$0	0.0%	$0	-$368,975	-100.0%
Tribal Subtotal	$0	-$2,133,703	-100.0%	$0	-$367,052	-100.0%	$0	-$214,459	-100.0%	$0	-$2,715,213	-100.0%
Total	$0	-$4,190,297	-100.0%	$0	-$367,052	-100.0%	$0	-$214,459	-100.0%	$0	-$4,771,807	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$1,938,045	-100.0%	$0	-$24,898	-100.0%	$0	$0	0.0%	$0	-$1,962,943	-100.0%
Tribal												
Marine Net	$0	-$1,868,006	-100.0%	$0	-$161,173	-100.0%	$0	-$6,912	-100.0%	$0	-$2,036,090	-100.0%
Freshwater Net	$0	-$130,549	-100.0%	$0	-$983	-100.0%	$0	$0	0.0%	$0	-$131,532	-100.0%
Tribal Subtotal	$0	-$1,998,555	-100.0%	$0	-$162,156	-100.0%	$0	-$6,912	-100.0%	$0	-$2,167,622	-100.0%
Total	$0	-$3,936,600	-100.0%	$0	-$187,054	-100.0%	$0	-$6,912	-100.0%	$0	-$4,130,565	-100.0%
Chum												
Non-tribal												
Marine Net	$0	-$833,067	-100.0%	$0	-$1,849,182	-100.0%	$0	$0	0.0%	$0	-$2,682,249	-100.0%
Tribal												
Marine Net	$0	-$701,169	-100.0%	$0	-$1,554,639	-100.0%	$0	-$94,468	-100.0%	$0	-$2,350,276	-100.0%
Freshwater Net	$9,269	-$464,328	-98.0%	$309,947	-$343,862	-52.6%	$22	$22	0.0%	$319,238	-$808,168	-71.7%
Tribal Subtotal	$9,269	-$1,165,498	-99.2%	$309,947	-$1,898,501	-86.0%	$22	-$94,446	-100.0%	$319,238	-$3,158,445	-90.8%
Total	$9,269	-$1,998,564	-99.5%	$309,947	-$3,747,683	-92.4%	$22	-$94,446	-100.0%	$319,238	-$5,840,693	-94.8%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$1,538	-100.0%	$0	-$78	-100.0%	$0	-$1,197	-100.0%	$0	-$2,813	-100.0%
Freshwater Net	$1,120	-$113	-9.2%	$5,195	-$1,461	-22.0%	$5,545	-$100	-1.8%	$11,860	-$1,675	-12.4%
Tribal Subtotal	$1,120	-$1,651	-59.6%	$5,195	-$1,540	-22.9%	$5,545	-$1,297	-19.0%	$11,860	-$4,488	-27.5%
Total	$1,120	-$1,651	-59.6%	$5,195	-$1,540	-22.9%	$5,545	-$1,297	-19.0%	$11,860	-$4,488	-27.5%
Total												
Non-tribal												
Marine Net	0	-5,206,082	-100.0%	0	-1,955,593	-100.0%	0	-10,920	-100.0%	0	-7,172,595	-100.0%
Tribal												
Marine Net	0	-5,459,633	-100.0%	0	-2,516,114	-100.0%	0	-461,094	-100.0%	0	-8,436,841	-100.0%
Marine Troll	0	0	0.0%	0	0	0.0%	0	-25,672	-100.0%	0	-25,672	-100.0%
Freshwater Net	10,389	-776,275	-98.7%	315,142	-1,759,996	-84.8%	5,567	-9,858	-63.9%	331,098	-2,546,129	-88.5%
Tribal Subtotal	10,389	-6,235,908	-99.8%	315,142	-4,276,111	-93.1%	5,567	-496,624	-98.9%	331,098	-11,008,642	-97.1%
Total	10,389	-11,441,990	-99.9%	315,142	-6,231,703	-95.2%	5,567	-507,544	-98.9%	331,098	-18,181,237	-98.2%

Table D-13. Direct changes in harvesting sector jobs (in full- and part-time jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	84.7	8.2	0.0	92.8
Tribal				
Marine Net	143.8	73.9	7.4	225.1
Marine Troll	0.0	0.0	5.5	5.5
Freshwater Net	11.5	139.1	0.0	150.6
Tribal Subtotal	155.3	213.0	12.9	381.2
Total	240.0	221.2	12.9	474.0
Coho				
Non-tribal				
Marine Net	15.7	6.6	1.9	24.2
Tribal				
Marine Net	101.4	114.9	29.2	245.4
Marine Troll	0.0	0.0	1.3	1.3
Freshwater Net	31.6	83.0	2.0	116.6
Tribal Subtotal	132.9	197.8	32.5	363.2
Total	148.7	204.4	34.4	387.4
Sockeye				
Non-tribal				
Marine Net	600.5	0.0	0.0	600.5
Tribal				
Marine Net	864.6	0.0	89.4	954.0
Freshwater Net	0.5	101.7	0.0	102.3
Tribal Subtotal	865.2	101.7	89.4	1,056.3
Total	1,465.7	101.7	89.4	1,656.8
Pink				
Non-tribal				
Marine Net	169.4	1.1	0.0	170.4
Tribal				
Marine Net	226.8	9.5	0.5	236.7
Freshwater Net	14.0	0.1	0.0	14.0
Tribal Subtotal	240.7	9.6	0.5	250.8
Total	410.1	10.6	0.5	421.2
Chum				
Non-tribal				
Marine Net	92.4	213.1	0.0	305.5
Tribal				
Marine Net	108.0	248.9	11.5	368.4
Freshwater Net	72.9	104.7	0.0	177.6
Tribal Subtotal	180.9	353.6	11.5	546.0
Total	273.3	566.7	11.5	851.5
Steelhead				
Non-tribal				
Marine Net	0.0	0.0	0.0	0.0
Tribal				
Marine Net	0.8	0.0	0.4	1.2
Freshwater Net	0.6	1.5	1.5	3.6
Tribal Subtotal	1.4	1.6	1.8	4.8
Total	1.4	1.6	1.8	4.8
Total				
Non-tribal				
Marine Net	962.7	228.9	1.9	1,193.5
Tribal				
Marine Net	1,445.5	447.2	138.2	2,030.9
Marine Troll	0.0	0.0	6.8	6.8
Freshwater Net	131.1	430.1	3.5	564.7
Tribal Subtotal	1,576.6	877.3	148.5	2,602.3
Total	2,539.2	1,106.2	150.4	3,795.9

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-13. Direct changes in harvesting sector jobs (in full- and part-time jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-84.7	-100.0%	0.0	-8.2	-100.0%	0.0	0.0	0.0%	0.0	-92.8	-100.0%
Tribal												
Marine Net	41.4	-102.5	-71.2%	0.0	-73.9	-100.0%	0.0	-7.4	-100.0%	41.4	-183.7	-81.6%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-5.5	-100.0%	0.0	-5.5	-100.0%
Freshwater Net	3.1	-8.4	-73.3%	169.0	29.9	21.5%	0.0	0.0	-100.0%	172.1	21.5	14.3%
Tribal Subtotal	44.4	-110.9	-71.4%	169.0	-44.0	-20.6%	0.0	-12.9	-100.0%	213.5	-167.8	-44.0%
Total	44.4	-195.5	-81.5%	169.0	-52.2	-23.6%	0.0	-12.9	-100.0%	213.5	-260.6	-55.0%
Coho												
Non-tribal												
Marine Net	0.5	-15.2	-96.7%	0.0	-6.6	-100.0%	2.3	0.4	22.2%	2.8	-21.4	-88.4%
Tribal												
Marine Net	0.0	-101.4	-100.0%	0.0	-114.9	-100.0%	0.0	-29.2	-100.0%	0.0	-245.4	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-1.3	-100.0%	0.0	-1.3	-100.0%
Freshwater Net	37.1	5.6	17.6%	86.7	3.7	4.5%	1.9	-0.1	-4.5%	125.8	9.2	7.9%
Tribal Subtotal	37.1	-95.8	-72.1%	86.7	-111.1	-56.2%	1.9	-30.5	-94.0%	125.8	-237.5	-65.4%
Total	37.6	-111.0	-74.7%	86.7	-117.7	-57.6%	4.2	-30.1	-87.7%	128.6	-258.9	-66.8%
Sockeye												
Non-tribal												
Marine Net	0.0	-600.5	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-600.5	-100.0%
Tribal												
Marine Net	0.0	-864.6	-100.0%	0.0	0.0	0.0%	0.0	-89.4	-100.0%	0.0	-954.0	-100.0%
Freshwater Net	0.0	-0.5	-100.0%	0.0	-101.7	-100.0%	0.0	0.0	0.0%	0.0	-102.3	-100.0%
Tribal Subtotal	0.0	-865.2	-100.0%	0.0	-101.7	-100.0%	0.0	-89.4	-100.0%	0.0	-1,056.3	-100.0%
Total	0.0	-1,465.7	-100.0%	0.0	-101.7	-100.0%	0.0	-89.4	-100.0%	0.0	-1,656.8	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-169.4	-100.0%	0.0	-1.1	-100.0%	0.0	0.0	0.0%	0.0	-170.4	-100.0%
Tribal												
Marine Net	0.0	-226.8	-100.0%	0.0	-9.5	-100.0%	0.0	-0.5	-100.0%	0.0	-236.7	-100.0%
Freshwater Net	25.1	11.1	79.6%	7.9	7.8	15257.6%	0.0	0.0	0.0%	33.0	18.9	135.0%
Tribal Subtotal	25.1	-215.6	-89.6%	7.9	-1.7	-17.8%	0.0	-0.5	-100.0%	33.0	-217.8	-86.8%
Total	25.1	-385.0	-93.9%	7.9	-2.8	-26.0%	0.0	-0.5	-100.0%	33.0	-388.2	-92.2%
Chum												
Non-tribal												
Marine Net	0.0	-92.4	-100.0%	0.0	-213.1	-100.0%	0.0	0.0	0.0%	0.0	-305.5	-100.0%
Tribal												
Marine Net	0.0	-108.0	-100.0%	0.0	-248.9	-100.0%	0.0	-11.5	-100.0%	0.0	-368.4	-100.0%
Freshwater Net	2.4	-70.5	-96.7%	198.5	93.8	89.6%	0.0	0.0	0.0%	201.0	23.3	13.1%
Tribal Subtotal	2.4	-178.5	-98.7%	198.5	-155.1	-43.9%	0.0	-11.5	-100.0%	201.0	-345.1	-63.2%
Total	2.4	-270.9	-99.1%	198.5	-368.2	-65.0%	0.0	-11.5	-100.0%	201.0	-650.6	-76.4%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	-0.8	-100.0%	0.0	0.0	-100.0%	0.0	-0.4	-100.0%	0.0	-1.2	-100.0%
Freshwater Net	0.5	-0.1	-9.2%	1.5	0.0	-0.5%	1.4	0.0	-1.6%	3.5	-0.1	-2.4%
Tribal Subtotal	0.5	-0.9	-62.7%	1.5	0.0	-1.8%	1.4	-0.4	-20.9%	3.5	-1.3	-27.1%
Total	0.5	-0.9	-62.7%	1.5	0.0	-1.8%	1.4	-0.4	-20.9%	3.5	-1.3	-27.1%
Total												
Non-tribal												
Marine Net	0.5	-962.2	-99.9%	0.0	-228.9	-100.0%	2.3	0.4	22.2%	2.8	-1,190.7	-99.8%
Tribal												
Marine Net	41.4	-1,404.1	-97.1%	0.0	-447.2	-100.0%	0.0	-138.2	-100.0%	41.4	-1,989.5	-98.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-6.8	-100.0%	0.0	-6.8	-100.0%
Freshwater Net	68.3	-62.8	-47.9%	463.6	33.5	7.8%	3.4	-0.1	-3.5%	535.3	-29.4	-5.2%
Tribal Subtotal	109.6	-1,466.9	-93.0%	463.6	-413.6	-47.1%	3.4	-145.1	-97.7%	576.7	-2,025.7	-77.8%
Total	110.2	-2,429.1	-95.7%	463.6	-642.6	-58.1%	5.7	-144.7	-96.2%	579.5	-3,216.4	-84.7%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-13. Direct changes in harvesting sector jobs (in full- and part-time jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-84.7	-100.0%	0.0	-8.2	-100.0%	0.0	0.0	0.0%	0.0	-92.8	-100.0%
Tribal												
Marine Net	0.0	-143.8	-100.0%	0.0	-73.9	-100.0%	0.0	-7.4	-100.0%	0.0	-225.1	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-5.5	-100.0%	0.0	-5.5	-100.0%
Freshwater Net	0.0	-11.5	-100.0%	169.0	29.9	21.5%	0.0	0.0	-100.0%	169.0	18.4	12.2%
Tribal Subtotal	0.0	-155.3	-100.0%	169.0	-44.0	-20.6%	0.0	-12.9	-100.0%	169.0	-212.2	-55.7%
Total	0.0	-240.0	-100.0%	169.0	-52.2	-23.6%	0.0	-12.9	-100.0%	169.0	-305.0	-64.3%
Coho												
Non-tribal												
Marine Net	0.5	-15.2	-96.7%	0.0	-6.6	-100.0%	2.3	0.4	22.2%	2.8	-21.4	-88.4%
Tribal												
Marine Net	0.0	-101.4	-100.0%	0.0	-114.9	-100.0%	0.0	-29.2	-100.0%	0.0	-245.4	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-1.3	-100.0%	0.0	-1.3	-100.0%
Freshwater Net	0.2	-31.4	-99.5%	86.7	3.7	4.5%	1.9	-0.1	-4.5%	88.8	-27.8	-23.8%
Tribal Subtotal	0.2	-132.8	-99.9%	86.7	-111.1	-56.2%	1.9	-30.5	-94.0%	88.8	-274.4	-75.6%
Total	0.7	-148.0	-99.5%	86.7	-117.7	-57.6%	4.2	-30.1	-87.7%	91.6	-295.8	-76.4%
Sockeye												
Non-tribal												
Marine Net	0.0	-600.5	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-600.5	-100.0%
Tribal												
Marine Net	0.0	-864.6	-100.0%	0.0	0.0	0.0%	0.0	-89.4	-100.0%	0.0	-954.0	-100.0%
Freshwater Net	0.0	-0.5	-100.0%	0.0	-101.7	-100.0%	0.0	0.0	0.0%	0.0	-102.3	-100.0%
Tribal Subtotal	0.0	-865.2	-100.0%	0.0	-101.7	-100.0%	0.0	-89.4	-100.0%	0.0	-1,056.3	-100.0%
Total	0.0	-1,465.7	-100.0%	0.0	-101.7	-100.0%	0.0	-89.4	-100.0%	0.0	-1,656.8	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-169.4	-100.0%	0.0	-1.1	-100.0%	0.0	0.0	0.0%	0.0	-170.4	-100.0%
Tribal												
Marine Net	0.0	-226.8	-100.0%	0.0	-9.5	-100.0%	0.0	-0.5	-100.0%	0.0	-236.7	-100.0%
Freshwater Net	0.0	-14.0	-100.0%	7.9	7.8	15257.6%	0.0	0.0	0.0%	7.9	-6.2	-44.0%
Tribal Subtotal	0.0	-240.7	-100.0%	7.9	-1.7	-17.8%	0.0	-0.5	-100.0%	7.9	-242.9	-96.9%
Total	0.0	-410.1	-100.0%	7.9	-2.8	-26.0%	0.0	-0.5	-100.0%	7.9	-413.3	-98.1%
Chum												
Non-tribal												
Marine Net	0.0	-92.4	-100.0%	0.0	-213.1	-100.0%	0.0	0.0	0.0%	0.0	-305.5	-100.0%
Tribal												
Marine Net	0.0	-108.0	-100.0%	0.0	-248.9	-100.0%	0.0	-11.5	-100.0%	0.0	-368.4	-100.0%
Freshwater Net	1.4	-71.5	-98.0%	198.5	93.8	89.6%	0.0	0.0	0.0%	199.9	22.3	12.6%
Tribal Subtotal	1.4	-179.5	-99.2%	198.5	-155.1	-43.9%	0.0	-11.5	-100.0%	199.9	-346.1	-63.4%
Total	1.4	-271.9	-99.5%	198.5	-368.2	-65.0%	0.0	-11.5	-100.0%	199.9	-651.6	-76.5%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	-0.8	-100.0%	0.0	0.0	-100.0%	0.0	-0.4	-100.0%	0.0	-1.2	-100.0%
Freshwater Net	0.5	-0.1	-9.2%	1.5	0.0	-0.5%	1.4	0.0	-1.6%	3.5	-0.1	-2.4%
Tribal Subtotal	0.5	-0.9	-62.7%	1.5	0.0	-1.8%	1.4	-0.4	-20.9%	3.5	-1.3	-27.1%
Total	0.5	-0.9	-62.7%	1.5	0.0	-1.8%	1.4	-0.4	-20.9%	3.5	-1.3	-27.1%
Total												
Non-tribal												
Marine Net	0.5	-962.2	-99.9%	0.0	-228.9	-100.0%	2.3	0.4	22.2%	2.8	-1,190.7	-99.8%
Tribal												
Marine Net	0.0	-1,445.5	-100.0%	0.0	-447.2	-100.0%	0.0	-138.2	-100.0%	0.0	-2,030.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-6.8	-100.0%	0.0	-6.8	-100.0%
Freshwater Net	2.1	-129.0	-98.4%	463.6	33.5	7.8%	3.4	-0.1	-3.5%	469.1	-95.5	-16.9%
Tribal Subtotal	2.1	-1,574.4	-99.9%	463.6	-413.6	-47.1%	3.4	-145.1	-97.7%	469.1	-2,133.2	-82.0%
Total	2.6	-2,536.6	-99.9%	463.6	-642.6	-58.1%	5.7	-144.7	-96.2%	472.0	-3,323.9	-87.6%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-13. Direct changes in harvesting sector jobs (in full- and part-time jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-84.7	-100.0%	0.0	-8.2	-100.0%	0.0	0.0	0.0%	0.0	-92.8	-100.0%
Tribal												
Marine Net	0.0	-143.8	-100.0%	0.0	-73.9	-100.0%	0.0	-7.4	-100.0%	0.0	-225.1	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-5.5	-100.0%	0.0	-5.5	-100.0%
Freshwater Net	0.0	-11.5	-100.0%	0.0	-139.1	-100.0%	0.0	0.0	-100.0%	0.0	-150.6	-100.0%
Tribal Subtotal	0.0	-155.3	-100.0%	0.0	-213.0	-100.0%	0.0	-12.9	-100.0%	0.0	-381.2	-100.0%
Total	0.0	-240.0	-100.0%	0.0	-221.2	-100.0%	0.0	-12.9	-100.0%	0.0	-474.0	-100.0%
Coho												
Non-tribal												
Marine Net	0.0	-15.7	-100.0%	0.0	-6.6	-100.0%	0.0	-1.9	-100.0%	0.0	-24.2	-100.0%
Tribal												
Marine Net	0.0	-101.4	-100.0%	0.0	-114.9	-100.0%	0.0	-29.2	-100.0%	0.0	-245.4	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-1.3	-100.0%	0.0	-1.3	-100.0%
Freshwater Net	0.0	-31.6	-100.0%	0.0	-83.0	-100.0%	0.0	-2.0	-100.0%	0.0	-116.6	-100.0%
Tribal Subtotal	0.0	-132.9	-100.0%	0.0	-197.8	-100.0%	0.0	-32.5	-100.0%	0.0	-363.2	-100.0%
Total	0.0	-148.7	-100.0%	0.0	-204.4	-100.0%	0.0	-34.4	-100.0%	0.0	-387.4	-100.0%
Sockeye												
Non-tribal												
Marine Net	0.0	-600.5	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-600.5	-100.0%
Tribal												
Marine Net	0.0	-864.6	-100.0%	0.0	0.0	0.0%	0.0	-89.4	-100.0%	0.0	-954.0	-100.0%
Freshwater Net	0.0	-0.5	-100.0%	0.0	-101.7	-100.0%	0.0	0.0	0.0%	0.0	-102.3	-100.0%
Tribal Subtotal	0.0	-865.2	-100.0%	0.0	-101.7	-100.0%	0.0	-89.4	-100.0%	0.0	-1,056.3	-100.0%
Total	0.0	-1,465.7	-100.0%	0.0	-101.7	-100.0%	0.0	-89.4	-100.0%	0.0	-1,656.8	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-169.4	-100.0%	0.0	-1.1	-100.0%	0.0	0.0	0.0%	0.0	-170.4	-100.0%
Tribal												
Marine Net	0.0	-226.8	-100.0%	0.0	-9.5	-100.0%	0.0	-0.5	-100.0%	0.0	-236.7	-100.0%
Freshwater Net	0.0	-14.0	-100.0%	0.0	-0.1	-100.0%	0.0	0.0	0.0%	0.0	-14.0	-100.0%
Tribal Subtotal	0.0	-240.7	-100.0%	0.0	-9.6	-100.0%	0.0	-0.5	-100.0%	0.0	-250.8	-100.0%
Total	0.0	-410.1	-100.0%	0.0	-10.6	-100.0%	0.0	-0.5	-100.0%	0.0	-421.2	-100.0%
Chum												
Non-tribal												
Marine Net	0.0	-92.4	-100.0%	0.0	-213.1	-100.0%	0.0	0.0	0.0%	0.0	-305.5	-100.0%
Tribal												
Marine Net	0.0	-108.0	-100.0%	0.0	-248.9	-100.0%	0.0	-11.5	-100.0%	0.0	-368.4	-100.0%
Freshwater Net	1.4	-71.5	-98.0%	49.6	-55.1	-52.6%	0.0	0.0	0.0%	51.1	-126.6	-71.3%
Tribal Subtotal	1.4	-179.5	-99.2%	49.6	-304.0	-86.0%	0.0	-11.5	-100.0%	51.1	-495.0	-90.6%
Total	1.4	-271.9	-99.5%	49.6	-517.1	-91.2%	0.0	-11.5	-100.0%	51.1	-800.5	-94.0%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	-0.8	-100.0%	0.0	0.0	-100.0%	0.0	-0.4	-100.0%	0.0	-1.2	-100.0%
Freshwater Net	0.5	-0.1	-9.2%	1.2	-0.3	-22.0%	1.4	0.0	-1.8%	3.2	-0.4	-11.7%
Tribal Subtotal	0.5	-0.9	-62.7%	1.2	-0.4	-23.0%	1.4	-0.4	-21.0%	3.2	-1.6	-34.1%
Total	0.5	-0.9	-62.7%	1.2	-0.4	-23.0%	1.4	-0.4	-21.0%	3.2	-1.6	-34.1%
Total												
Non-tribal												
Marine Net	0.0	-962.7	-100.0%	0.0	-228.9	-100.0%	0.0	-1.9	-100.0%	0.0	-1,193.5	-100.0%
Tribal												
Marine Net	0.0	-1,445.5	-100.0%	0.0	-447.2	-100.0%	0.0	-138.2	-100.0%	0.0	-2,030.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-6.8	-100.0%	0.0	-6.8	-100.0%
Freshwater Net	2.0	-129.1	-98.5%	50.8	-379.3	-88.2%	1.4	-2.1	-58.8%	54.2	-510.4	-90.4%
Tribal Subtotal	2.0	-1,574.6	-99.9%	50.8	-826.5	-94.2%	1.4	-147.1	-99.0%	54.2	-2,548.1	-97.9%
Total	2.0	-2,537.3	-99.9%	50.8	-1,055.4	-95.4%	1.4	-148.9	-99.0%	54.2	-3,741.6	-98.6%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-14. Direct changes in harvesting sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

Specie	Alternative 1 - Proposed Action/Status Quo			
	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	4.8	0.4	0.0	5.0
Tribal				
Marine Net	5.8	2.8	0.3	8.7
Marine Troll	0.0	0.0	0.3	0.3
Freshwater Net	0.6	6.7	0.0	7.5
Tribal Subtotal	6.4	9.4	0.6	16.5
Total	11.2	9.9	0.6	21.5
Coho				
Non-tribal				
Marine Net	0.8	0.3	0.1	1.1
Tribal				
Marine Net	3.5	3.6	1.0	7.9
Marine Troll	0.0	0.0	0.0	0.0
Freshwater Net	1.2	3.0	0.1	4.3
Tribal Subtotal	4.7	6.6	1.1	12.2
Total	5.5	6.9	1.2	13.3
Sockeye				
Non-tribal				
Marine Net	28.7	0.0	0.0	27.1
Tribal				
Marine Net	29.8	0.0	3.0	31.0
Freshwater Net	0.0	4.7	0.0	4.9
Tribal Subtotal	29.8	4.7	3.0	35.9
Total	58.5	4.7	3.0	63.0
Pink				
Non-tribal				
Marine Net	29.3	0.2	0.0	28.3
Tribal				
Marine Net	28.2	1.1	0.1	28.3
Freshwater Net	2.0	0.0	0.0	1.9
Tribal Subtotal	30.2	1.1	0.1	30.2
Total	59.5	1.3	0.1	58.6
Chum				
Non-tribal				
Marine Net	3.1	6.5	0.0	9.0
Tribal				
Marine Net	2.6	5.5	0.2	7.8
Freshwater Net	1.7	2.3	0.0	3.8
Tribal Subtotal	4.3	7.8	0.2	11.6
Total	7.4	14.3	0.2	20.6
Steelhead				
Non-tribal				
Marine Net	0.0	0.0	0.0	0.0
Tribal				
Marine Net	0.0	0.0	0.0	0.0
Freshwater Net	0.0	0.0	0.0	0.1
Tribal Subtotal	0.0	0.0	0.1	0.1
Total	0.0	0.0	0.1	0.1
Total				
Non-tribal				
Marine Net	66.6	7.4	0.1	70.5
Tribal				
Marine Net	69.9	12.9	4.6	83.8
Marine Troll	0.0	0.0	0.4	0.3
Freshwater Net	5.6	16.7	0.1	22.4
Tribal Subtotal	75.5	29.6	5.0	106.6
Total	142.2	37.1	5.1	177.1

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-14. Direct changes in harvesting sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries., continued

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-4.8	-100.0%	0.0	-0.4	-100.0%	0.0	0.0	0.0%	0.0	-5.0	-100.0%
Tribal												
Marine Net	1.9	-4.0	-67.7%	0.0	-2.8	-100.0%	0.0	-0.3	-100.0%	1.8	-6.9	-79.4%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.2	-0.4	-70.0%	9.1	2.4	36.6%	0.0	0.0	-100.0%	9.6	2.1	28.4%
Tribal Subtotal	2.1	-4.4	-67.9%	9.1	-0.3	-3.3%	0.0	-0.6	-100.0%	11.4	-5.1	-30.8%
Total	2.1	-9.2	-81.6%	9.1	-0.7	-7.5%	0.0	-0.6	-100.0%	11.4	-10.1	-46.9%
Coho												
Non-tribal												
Marine Net	0.0	-0.7	-96.3%	0.0	-0.3	-100.0%	0.1	0.0	37.9%	0.1	-0.9	-87.0%
Tribal												
Marine Net	0.0	-3.5	-100.0%	0.0	-3.6	-100.0%	0.0	-1.0	-100.0%	0.0	-7.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	1.6	0.4	31.9%	3.5	0.5	17.0%	0.1	0.0	7.8%	5.2	0.9	20.8%
Tribal Subtotal	1.6	-3.1	-65.3%	3.5	-3.1	-47.0%	0.1	-1.0	-92.4%	5.2	-7.0	-57.5%
Total	1.7	-3.8	-69.6%	3.5	-3.4	-49.2%	0.2	-1.0	-82.8%	5.3	-8.0	-59.9%
Sockeye												
Non-tribal												
Marine Net	0.0	-28.7	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-27.1	-100.0%
Tribal												
Marine Net	0.0	-29.8	-100.0%	0.0	0.0	0.0%	0.0	-3.0	-100.0%	0.0	-31.0	-100.0%
Freshwater Net	0.0	0.0	-100.0%	0.0	-4.7	-100.0%	0.0	0.0	0.0%	0.0	-4.9	-100.0%
Tribal Subtotal	0.0	-29.8	-100.0%	0.0	-4.7	-100.0%	0.0	-3.0	-100.0%	0.0	-35.9	-100.0%
Total	0.0	-58.5	-100.0%	0.0	-4.7	-100.0%	0.0	-3.0	-100.0%	0.0	-63.0	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-29.3	-100.0%	0.0	-0.2	-100.0%	0.0	0.0	0.0%	0.0	-28.3	-100.0%
Tribal												
Marine Net	0.0	-28.2	-100.0%	0.0	-1.1	-100.0%	0.0	-0.1	-100.0%	0.0	-28.3	-100.0%
Freshwater Net	4.0	2.0	101.4%	1.1	1.1	17119.2%	0.0	0.0	0.0%	5.0	3.1	164.4%
Tribal Subtotal	4.0	-26.2	-86.8%	1.1	0.0	4.4%	0.0	-0.1	-100.0%	5.0	-25.2	-83.4%
Total	4.0	-55.5	-93.3%	1.1	-0.1	-9.5%	0.0	-0.1	-100.0%	5.0	-53.5	-91.4%
Chum												
Non-tribal												
Marine Net	0.0	-3.1	-100.0%	0.0	-6.5	-100.0%	0.0	0.0	0.0%	0.0	-9.0	-100.0%
Tribal												
Marine Net	0.0	-2.6	-100.0%	0.0	-5.5	-100.0%	0.0	-0.2	-100.0%	0.0	-7.8	-100.0%
Freshwater Net	0.1	-1.7	-96.3%	5.0	2.7	114.9%	0.0	0.0	0.0%	4.8	1.0	26.6%
Tribal Subtotal	0.1	-4.3	-98.5%	5.0	-2.8	-36.4%	0.0	-0.2	-100.0%	4.8	-6.8	-58.8%
Total	0.1	-7.3	-99.1%	5.0	-9.4	-65.4%	0.0	-0.2	-100.0%	4.8	-15.8	-76.8%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	0.0	1.8%	0.1	0.0	11.6%	0.1	0.0	11.0%	0.1	0.0	9.8%
Tribal Subtotal	0.0	0.0	-54.7%	0.1	0.0	10.3%	0.1	0.0	-8.5%	0.1	0.0	-15.2%
Total	0.0	0.0	-54.7%	0.1	0.0	10.3%	0.1	0.0	-8.5%	0.1	0.0	-15.2%
Total												
Non-tribal												
Marine Net	0.0	-66.6	-100.0%	0.0	-7.4	-100.0%	0.1	0.0	37.9%	0.1	-70.4	-99.8%
Tribal												
Marine Net	1.9	-68.0	-97.3%	0.0	-12.9	-100.0%	0.0	-4.6	-100.0%	1.8	-82.0	-97.9%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.4	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	5.9	0.3	4.8%	18.8	2.1	12.4%	0.1	0.0	8.5%	24.7	2.3	10.3%
Tribal Subtotal	7.8	-67.8	-89.7%	18.8	-10.9	-36.7%	0.1	-4.9	-97.3%	26.5	-80.0	-75.1%
Total	7.8	-134.4	-94.5%	18.8	-18.3	-49.3%	0.3	-4.9	-95.1%	26.7	-150.4	-84.9%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-14. Direct changes in harvesting sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries., continued

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-4.8	-100.0%	0.0	-0.4	-100.0%	0.0	0.0	0.0%	0.0	-5.0	-100.0%
Tribal												
Marine Net	0.0	-5.8	-100.0%	0.0	-2.8	-100.0%	0.0	-0.3	-100.0%	0.0	-8.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.0	-0.6	-100.0%	9.1	2.4	36.6%	0.0	0.0	-100.0%	9.5	2.0	26.1%
Tribal Subtotal	0.0	-6.4	-100.0%	9.1	-0.3	-3.3%	0.0	-0.6	-100.0%	9.5	-7.1	-42.8%
Total	0.0	-11.2	-100.0%	9.1	-0.7	-7.5%	0.0	-0.6	-100.0%	9.5	-12.1	-56.0%
Coho												
Non-tribal												
Marine Net	0.0	-0.7	-96.3%	0.0	-0.3	-100.0%	0.1	0.0	37.9%	0.1	-0.9	-87.0%
Tribal												
Marine Net	0.0	-3.5	-100.0%	0.0	-3.6	-100.0%	0.0	-1.0	-100.0%	0.0	-7.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	-1.2	-99.4%	3.5	0.5	17.0%	0.1	0.0	7.8%	3.7	-0.6	-14.7%
Tribal Subtotal	0.0	-4.7	-99.9%	3.5	-3.1	-47.0%	0.1	-1.0	-92.4%	3.7	-8.6	-70.0%
Total	0.0	-5.4	-99.4%	3.5	-3.4	-49.2%	0.2	-1.0	-82.8%	3.8	-9.5	-71.4%
Sockeye												
Non-tribal												
Marine Net	0.0	-28.7	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-27.1	-100.0%
Tribal												
Marine Net	0.0	-29.8	-100.0%	0.0	0.0	0.0%	0.0	-3.0	-100.0%	0.0	-31.0	-100.0%
Freshwater Net	0.0	0.0	-100.0%	0.0	-4.7	-100.0%	0.0	0.0	0.0%	0.0	-4.9	-100.0%
Tribal Subtotal	0.0	-29.8	-100.0%	0.0	-4.7	-100.0%	0.0	-3.0	-100.0%	0.0	-35.9	-100.0%
Total	0.0	-58.5	-100.0%	0.0	-4.7	-100.0%	0.0	-3.0	-100.0%	0.0	-63.0	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-29.3	-100.0%	0.0	-0.2	-100.0%	0.0	0.0	0.0%	0.0	-28.3	-100.0%
Tribal												
Marine Net	0.0	-28.2	-100.0%	0.0	-1.1	-100.0%	0.0	-0.1	-100.0%	0.0	-28.3	-100.0%
Freshwater Net	0.0	-2.0	-100.0%	1.1	1.1	17119.2%	0.0	0.0	0.0%	1.2	-0.7	-37.0%
Tribal Subtotal	0.0	-30.2	-100.0%	1.1	0.0	4.4%	0.0	-0.1	-100.0%	1.2	-29.0	-96.0%
Total	0.0	-59.5	-100.0%	1.1	-0.1	-9.5%	0.0	-0.1	-100.0%	1.2	-57.4	-98.0%
Chum												
Non-tribal												
Marine Net	0.0	-3.1	-100.0%	0.0	-6.5	-100.0%	0.0	0.0	0.0%	0.0	-9.0	-100.0%
Tribal												
Marine Net	0.0	-2.6	-100.0%	0.0	-5.5	-100.0%	0.0	-0.2	-100.0%	0.0	-7.8	-100.0%
Freshwater Net	0.0	-1.7	-97.8%	5.0	2.7	114.9%	0.0	0.0	0.0%	4.7	1.0	26.0%
Tribal Subtotal	0.0	-4.3	-99.1%	5.0	-2.8	-36.4%	0.0	-0.2	-100.0%	4.7	-6.8	-59.0%
Total	0.0	-7.4	-99.5%	5.0	-9.4	-65.4%	0.0	-0.2	-100.0%	4.7	-15.8	-76.9%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	0.0	1.8%	0.1	0.0	11.6%	0.1	0.0	11.0%	0.1	0.0	9.8%
Tribal Subtotal	0.0	0.0	-54.7%	0.1	0.0	10.3%	0.1	0.0	-8.5%	0.1	0.0	-15.2%
Total	0.0	0.0	-54.7%	0.1	0.0	10.3%	0.1	0.0	-8.5%	0.1	0.0	-15.2%
Total												
Non-tribal												
Marine Net	0.0	-66.6	-100.0%	0.0	-7.4	-100.0%	0.1	0.0	37.9%	0.1	-70.4	-99.8%
Tribal												
Marine Net	0.0	-69.9	-100.0%	0.0	-12.9	-100.0%	0.0	-4.6	-100.0%	0.0	-83.8	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.4	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.1	-5.5	-98.9%	18.8	2.1	12.4%	0.1	0.0	8.5%	19.2	-3.3	-14.5%
Tribal Subtotal	0.1	-75.5	-99.9%	18.8	-10.9	-36.7%	0.1	-4.9	-97.3%	19.2	-87.4	-82.0%
Total	0.1	-142.1	-99.9%	18.8	-18.3	-49.3%	0.3	-4.9	-95.1%	19.3	-157.8	-89.1%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-14. Direct changes in harvesting sector employment (in full-time equivalent jobs) caused by changes in C Table D-23. Direct changes in harvesting sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries., continued Scenario B: 2003 abundance with maximum AK and Canadian PST fisheries, *continued* .

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-4.8	-100.0%	0.0	-0.4	-100.0%	0.0	0.0	0.0%	0.0	-5.0	-100.0%
Tribal												
Marine Net	0.0	-5.8	-100.0%	0.0	-2.8	-100.0%	0.0	-0.3	-100.0%	0.0	-8.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.0	-0.6	-100.0%	0.0	-6.7	-100.0%	0.0	0.0	-100.0%	0.0	-7.5	-100.0%
Tribal Subtotal	0.0	-6.4	-100.0%	0.0	-9.4	-100.0%	0.0	-0.6	-100.0%	0.0	-16.5	-100.0%
Total	0.0	-11.2	-100.0%	0.0	-9.9	-100.0%	0.0	-0.6	-100.0%	0.0	-21.5	-100.0%
Coho												
Non-tribal												
Marine Net	0.0	-0.8	-100.0%	0.0	-0.3	-100.0%	0.0	-0.1	-100.0%	0.0	-1.1	-100.0%
Tribal												
Marine Net	0.0	-3.5	-100.0%	0.0	-3.6	-100.0%	0.0	-1.0	-100.0%	0.0	-7.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	-1.2	-100.0%	0.0	-3.0	-100.0%	0.0	-0.1	-100.0%	0.0	-4.3	-100.0%
Tribal Subtotal	0.0	-4.7	-100.0%	0.0	-6.6	-100.0%	0.0	-1.1	-100.0%	0.0	-12.2	-100.0%
Total	0.0	-5.5	-100.0%	0.0	-6.9	-100.0%	0.0	-1.2	-100.0%	0.0	-13.3	-100.0%
Sockeye												
Non-tribal												
Marine Net	0.0	-28.7	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-27.1	-100.0%
Tribal												
Marine Net	0.0	-29.8	-100.0%	0.0	0.0	0.0%	0.0	-3.0	-100.0%	0.0	-31.0	-100.0%
Freshwater Net	0.0	0.0	-100.0%	0.0	-4.7	-100.0%	0.0	0.0	0.0%	0.0	-4.9	-100.0%
Tribal Subtotal	0.0	-29.8	-100.0%	0.0	-4.7	-100.0%	0.0	-3.0	-100.0%	0.0	-35.9	-100.0%
Total	0.0	-58.5	-100.0%	0.0	-4.7	-100.0%	0.0	-3.0	-100.0%	0.0	-63.0	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-29.3	-100.0%	0.0	-0.2	-100.0%	0.0	0.0	0.0%	0.0	-28.3	-100.0%
Tribal												
Marine Net	0.0	-28.2	-100.0%	0.0	-1.1	-100.0%	0.0	-0.1	-100.0%	0.0	-28.3	-100.0%
Freshwater Net	0.0	-2.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	0.0%	0.0	-1.9	-100.0%
Tribal Subtotal	0.0	-30.2	-100.0%	0.0	-1.1	-100.0%	0.0	-0.1	-100.0%	0.0	-30.2	-100.0%
Total	0.0	-59.5	-100.0%	0.0	-1.3	-100.0%	0.0	-0.1	-100.0%	0.0	-58.6	-100.0%
Chum												
Non-tribal												
Marine Net	0.0	-3.1	-100.0%	0.0	-6.5	-100.0%	0.0	0.0	0.0%	0.0	-9.0	-100.0%
Tribal												
Marine Net	0.0	-2.6	-100.0%	0.0	-5.5	-100.0%	0.0	-0.2	-100.0%	0.0	-7.8	-100.0%
Freshwater Net	0.0	-1.7	-97.8%	1.2	-1.1	-46.3%	0.0	0.0	0.0%	1.2	-2.6	-67.8%
Tribal Subtotal	0.0	-4.3	-99.1%	1.2	-6.6	-84.1%	0.0	-0.2	-100.0%	1.2	-10.4	-89.5%
Total	0.0	-7.4	-99.5%	1.2	-13.1	-91.3%	0.0	-0.2	-100.0%	1.2	-19.4	-94.1%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	0.0	1.8%	0.0	0.0	-12.5%	0.1	0.0	10.8%	0.1	0.0	-0.6%
Tribal Subtotal	0.0	0.0	-54.7%	0.0	0.0	-13.5%	0.1	0.0	-8.6%	0.1	0.0	-23.3%
Total	0.0	0.0	-54.7%	0.0	0.0	-13.5%	0.1	0.0	-8.6%	0.1	0.0	-23.3%
Total												
Non-tribal												
Marine Net	0.0	-66.6	-100.0%	0.0	-7.4	-100.0%	0.0	-0.1	-100.0%	0.0	-70.5	-100.0%
Tribal												
Marine Net	0.0	-69.9	-100.0%	0.0	-12.9	-100.0%	0.0	-4.6	-100.0%	0.0	-83.8	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.4	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.1	-5.5	-99.0%	1.3	-15.4	-92.3%	0.1	-0.1	-58.5%	1.3	-21.1	-94.1%
Tribal Subtotal	0.1	-75.5	-99.9%	1.3	-28.4	-95.7%	0.1	-5.0	-99.0%	1.3	-105.3	-98.8%
Total	0.1	-142.1	-100.0%	1.3	-35.8	-96.5%	0.1	-5.1	-99.0%	1.3	-175.8	-99.3%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-15. Direct changes in processing sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	4.3	0.4	0.0	4.4
Tribal				
Marine Net	5.2	2.3	0.3	7.7
Marine Troll	0.0	0.0	0.2	0.2
Freshwater Net	0.5	5.6	0.0	6.7
Tribal Subtotal	5.7	8.0	0.5	14.6
Total	10.0	8.3	0.5	19.0
Coho				
Non-tribal				
Marine Net	1.4	0.5	0.2	2.0
Tribal				
Marine Net	6.4	6.3	1.8	14.7
Marine Troll	0.0	0.0	0.1	0.1
Freshwater Net	2.3	5.2	0.1	8.0
Tribal Subtotal	8.7	11.6	2.0	22.7
Total	10.1	12.1	2.2	24.7
Sockeye				
Non-tribal				
Marine Net	20.4	0.0	0.0	19.4
Tribal				
Marine Net	21.1	0.0	2.2	22.1
Freshwater Net	0.0	3.2	0.0	3.5
Tribal Subtotal	21.2	3.2	2.2	25.6
Total	41.6	3.2	2.2	45.0
Pink				
Non-tribal				
Marine Net	40.1	0.2	0.0	38.8
Tribal				
Marine Net	38.7	1.4	0.1	38.8
Freshwater Net	2.7	0.0	0.0	2.6
Tribal Subtotal	41.4	1.4	0.1	41.4
Total	81.5	1.6	0.1	80.2
Chum				
Non-tribal				
Marine Net	15.5	31.2	0.0	48.2
Tribal				
Marine Net	13.0	26.3	1.4	41.8
Freshwater Net	8.8	11.0	0.0	20.2
Tribal Subtotal	21.9	37.3	1.4	62.0
Total	37.3	68.5	1.4	110.2
Steelhead				
Non-tribal				
Marine Net	0.0	0.0	0.0	0.0
Tribal				
Marine Net	0.0	0.0	0.0	0.0
Freshwater Net	0.0	0.1	0.1	0.1
Tribal Subtotal	0.1	0.1	0.1	0.2
Total	0.1	0.1	0.1	0.2
Total				
Non-tribal				
Marine Net	81.6	32.3	0.2	112.8
Tribal				
Marine Net	84.5	36.3	5.7	125.2
Marine Troll	0.0	0.0	0.3	0.3
Freshwater Net	14.4	25.2	0.2	41.0
Tribal Subtotal	98.9	61.5	6.1	166.5
Total	180.5	93.9	6.3	279.3

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-15. Direct changes in processing sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives. Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-4.3	-100.0%	0.0	-0.4	-100.0%	0.0	0.0	0.0%	0.0	-4.4	-100.0%
Tribal												
Marine Net	1.5	-3.7	-71.2%	0.0	-2.3	-100.0%	0.0	-0.3	-100.0%	1.4	-6.3	-81.6%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.2	-100.0%	0.0	-0.2	-100.0%
Freshwater Net	0.1	-0.4	-73.3%	6.9	1.2	21.5%	0.0	0.0	-100.0%	7.6	1.0	14.3%
Tribal Subtotal	1.6	-4.1	-71.4%	6.9	-1.1	-14.0%	0.0	-0.5	-100.0%	9.0	-5.6	-38.1%
Total	1.6	-8.4	-83.6%	6.9	-1.5	-17.7%	0.0	-0.5	-100.0%	9.0	-10.0	-52.5%
Coho												
Non-tribal												
Marine Net	0.0	-1.3	-96.7%	0.0	-0.5	-100.0%	0.2	0.0	22.2%	0.2	-1.8	-88.4%
Tribal												
Marine Net	0.0	-6.4	-100.0%	0.0	-6.3	-100.0%	0.0	-1.8	-100.0%	0.0	-14.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.1	-100.0%	0.0	-0.1	-100.0%
Freshwater Net	2.7	0.4	17.6%	5.5	0.2	4.5%	0.1	0.0	-4.5%	8.6	0.6	7.9%
Tribal Subtotal	2.7	-6.0	-69.1%	5.5	-6.1	-52.7%	0.1	-1.9	-93.2%	8.6	-14.1	-62.1%
Total	2.7	-7.3	-72.9%	5.5	-6.6	-54.6%	0.3	-1.8	-84.7%	8.9	-15.9	-64.2%
Sockeye												
Non-tribal												
Marine Net	0.0	-20.4	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-19.4	-100.0%
Tribal												
Marine Net	0.0	-21.1	-100.0%	0.0	0.0	0.0%	0.0	-2.2	-100.0%	0.0	-22.1	-100.0%
Freshwater Net	0.0	0.0	-100.0%	0.0	-3.2	-100.0%	0.0	0.0	0.0%	0.0	-3.5	-100.0%
Tribal Subtotal	0.0	-21.2	-100.0%	0.0	-3.2	-100.0%	0.0	-2.2	-100.0%	0.0	-25.6	-100.0%
Total	0.0	-41.6	-100.0%	0.0	-3.2	-100.0%	0.0	-2.2	-100.0%	0.0	-45.0	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-40.1	-100.0%	0.0	-0.2	-100.0%	0.0	0.0	0.0%	0.0	-38.8	-100.0%
Tribal												
Marine Net	0.0	-38.7	-100.0%	0.0	-1.4	-100.0%	0.0	-0.1	-100.0%	0.0	-38.8	-100.0%
Freshwater Net	4.9	2.2	79.6%	1.3	1.3	15257.6%	0.0	0.0	0.0%	6.1	3.5	135.0%
Tribal Subtotal	4.9	-36.5	-88.3%	1.3	-0.1	-6.9%	0.0	-0.1	-100.0%	6.1	-35.3	-85.2%
Total	4.9	-76.6	-94.0%	1.3	-0.3	-19.3%	0.0	-0.1	-100.0%	6.1	-74.1	-92.4%
Chum												
Non-tribal												
Marine Net	0.0	-15.5	-100.0%	0.0	-31.2	-100.0%	0.0	0.0	0.0%	0.0	-48.2	-100.0%
Tribal												
Marine Net	0.0	-13.0	-100.0%	0.0	-26.3	-100.0%	0.0	-1.4	-100.0%	0.0	-41.8	-100.0%
Freshwater Net	0.3	-8.5	-96.7%	20.9	9.9	89.6%	0.0	0.0	0.0%	22.8	2.6	13.1%
Tribal Subtotal	0.3	-21.6	-98.7%	20.9	-16.4	-43.9%	0.0	-1.4	-100.0%	22.8	-39.2	-63.2%
Total	0.3	-37.1	-99.2%	20.9	-47.6	-69.4%	0.0	-1.4	-100.0%	22.8	-87.4	-79.3%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	0.0	-9.2%	0.1	0.0	-0.5%	0.1	0.0	-1.6%	0.1	0.0	-2.4%
Tribal Subtotal	0.0	0.0	-59.6%	0.1	0.0	-1.6%	0.1	0.0	-18.8%	0.1	0.0	-24.6%
Total	0.0	0.0	-59.6%	0.1	0.0	-1.6%	0.1	0.0	-18.8%	0.1	0.0	-24.6%
Total												
Non-tribal												
Marine Net	0.0	-81.6	-99.9%	0.0	-32.3	-100.0%	0.2	0.0	22.2%	0.2	-112.5	-99.8%
Tribal												
Marine Net	1.5	-83.0	-98.2%	0.0	-36.3	-100.0%	0.0	-5.7	-100.0%	1.4	-123.8	-98.9%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	8.0	-6.4	-44.3%	34.7	9.5	37.5%	0.2	0.0	-3.7%	45.3	4.3	10.4%
Tribal Subtotal	9.5	-89.4	-90.4%	34.7	-26.9	-43.7%	0.2	-5.9	-96.8%	46.7	-119.8	-71.9%
Total	9.5	-171.0	-94.7%	34.7	-59.2	-63.1%	0.4	-5.9	-93.7%	47.0	-232.3	-83.2%

Table D-15. Direct changes in processing sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-4.3	-100.0%	0.0	-0.4	-100.0%	0.0	0.0	0.0%	0.0	-4.4	-100.0%
Tribal												
Marine Net	0.0	-5.2	-100.0%	0.0	-2.3	-100.0%	0.0	-0.3	-100.0%	0.0	-7.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.2	-100.0%	0.0	-0.2	-100.0%
Freshwater Net	0.0	-0.5	-100.0%	6.9	1.2	21.5%	0.0	0.0	-100.0%	7.5	0.8	12.2%
Tribal Subtotal	0.0	-5.7	-100.0%	6.9	-1.1	-14.0%	0.0	-0.5	-100.0%	7.5	-7.1	-48.7%
Total	0.0	-10.0	-100.0%	6.9	-1.5	-17.7%	0.0	-0.5	-100.0%	7.5	-11.5	-60.7%
Coho												
Non-tribal												
Marine Net	0.0	-1.3	-96.7%	0.0	-0.5	-100.0%	0.2	0.0	22.2%	0.2	-1.8	-88.4%
Tribal												
Marine Net	0.0	-6.4	-100.0%	0.0	-6.3	-100.0%	0.0	-1.8	-100.0%	0.0	-14.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.1	-100.0%	0.0	-0.1	-100.0%
Freshwater Net	0.0	-2.3	-99.5%	5.5	0.2	4.5%	0.1	0.0	-4.5%	6.1	-1.9	-23.8%
Tribal Subtotal	0.0	-8.7	-99.9%	5.5	-6.1	-52.7%	0.1	-1.9	-93.2%	6.1	-16.6	-73.2%
Total	0.1	-10.0	-99.4%	5.5	-6.6	-54.6%	0.3	-1.8	-84.7%	6.3	-18.4	-74.5%
Sockeye												
Non-tribal												
Marine Net	0.0	-20.4	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-19.4	-100.0%
Tribal												
Marine Net	0.0	-21.1	-100.0%	0.0	0.0	0.0%	0.0	-2.2	-100.0%	0.0	-22.1	-100.0%
Freshwater Net	0.0	0.0	-100.0%	0.0	-3.2	-100.0%	0.0	0.0	0.0%	0.0	-3.5	-100.0%
Tribal Subtotal	0.0	-21.2	-100.0%	0.0	-3.2	-100.0%	0.0	-2.2	-100.0%	0.0	-25.6	-100.0%
Total	0.0	-41.6	-100.0%	0.0	-3.2	-100.0%	0.0	-2.2	-100.0%	0.0	-45.0	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-40.1	-100.0%	0.0	-0.2	-100.0%	0.0	0.0	0.0%	0.0	-38.8	-100.0%
Tribal												
Marine Net	0.0	-38.7	-100.0%	0.0	-1.4	-100.0%	0.0	-0.1	-100.0%	0.0	-38.8	-100.0%
Freshwater Net	0.0	-2.7	-100.0%	1.3	1.3	15257.6%	0.0	0.0	0.0%	1.5	-1.1	-44.0%
Tribal Subtotal	0.0	-41.4	-100.0%	1.3	-0.1	-6.9%	0.0	-0.1	-100.0%	1.5	-39.9	-96.5%
Total	0.0	-81.5	-100.0%	1.3	-0.3	-19.3%	0.0	-0.1	-100.0%	1.5	-78.7	-98.2%
Chum												
Non-tribal												
Marine Net	0.0	-15.5	-100.0%	0.0	-31.2	-100.0%	0.0	0.0	0.0%	0.0	-48.2	-100.0%
Tribal												
Marine Net	0.0	-13.0	-100.0%	0.0	-26.3	-100.0%	0.0	-1.4	-100.0%	0.0	-41.8	-100.0%
Freshwater Net	0.2	-8.6	-98.0%	20.9	9.9	89.6%	0.0	0.0	0.0%	22.7	2.5	12.6%
Tribal Subtotal	0.2	-21.7	-99.2%	20.9	-16.4	-43.9%	0.0	-1.4	-100.0%	22.7	-39.3	-63.4%
Total	0.2	-37.2	-99.5%	20.9	-47.6	-69.4%	0.0	-1.4	-100.0%	22.7	-87.5	-79.4%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	0.0	-9.2%	0.1	0.0	-0.5%	0.1	0.0	-1.6%	0.1	0.0	-2.4%
Tribal Subtotal	0.0	0.0	-59.6%	0.1	0.0	-1.6%	0.1	0.0	-18.8%	0.1	0.0	-24.6%
Total	0.0	0.0	-59.6%	0.1	0.0	-1.6%	0.1	0.0	-18.8%	0.1	0.0	-24.6%
Total												
Non-tribal												
Marine Net	0.0	-81.6	-99.9%	0.0	-32.3	-100.0%	0.2	0.0	22.2%	0.2	-112.5	-99.8%
Tribal												
Marine Net	0.0	-84.5	-100.0%	0.0	-36.3	-100.0%	0.0	-5.7	-100.0%	0.0	-125.2	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.2	-14.2	-98.6%	34.7	9.5	37.5%	0.2	0.0	-3.7%	37.9	-3.2	-7.7%
Tribal Subtotal	0.2	-98.7	-99.8%	34.7	-26.9	-43.7%	0.2	-5.9	-96.8%	37.9	-128.6	-77.3%
Total	0.3	-180.3	-99.9%	34.7	-59.2	-63.1%	0.4	-5.9	-93.7%	38.1	-241.2	-86.4%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-15. Direct changes in processing sector employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-4.3	-100.0%	0.0	-0.4	-100.0%	0.0	0.0	0.0%	0.0	-4.4	-100.0%
Tribal												
Marine Net	0.0	-5.2	-100.0%	0.0	-2.3	-100.0%	0.0	-0.3	-100.0%	0.0	-7.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.2	-100.0%	0.0	-0.2	-100.0%
Freshwater Net	0.0	-0.5	-100.0%	0.0	-5.6	-100.0%	0.0	0.0	-100.0%	0.0	-6.7	-100.0%
Tribal Subtotal	0.0	-5.7	-100.0%	0.0	-8.0	-100.0%	0.0	-0.5	-100.0%	0.0	-14.6	-100.0%
Total	0.0	-10.0	-100.0%	0.0	-8.3	-100.0%	0.0	-0.5	-100.0%	0.0	-19.0	-100.0%
Coho												
Non-tribal												
Marine Net	0.0	-1.4	-100.0%	0.0	-0.5	-100.0%	0.0	-0.2	-100.0%	0.0	-2.0	-100.0%
Tribal												
Marine Net	0.0	-6.4	-100.0%	0.0	-6.3	-100.0%	0.0	-1.8	-100.0%	0.0	-14.7	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.1	-100.0%	0.0	-0.1	-100.0%
Freshwater Net	0.0	-2.3	-100.0%	0.0	-5.2	-100.0%	0.0	-0.1	-100.0%	0.0	-8.0	-100.0%
Tribal Subtotal	0.0	-8.7	-100.0%	0.0	-11.6	-100.0%	0.0	-2.0	-100.0%	0.0	-22.7	-100.0%
Total	0.0	-10.1	-100.0%	0.0	-12.1	-100.0%	0.0	-2.2	-100.0%	0.0	-24.7	-100.0%
Sockeye												
Non-tribal												
Marine Net	0.0	-20.4	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-19.4	-100.0%
Tribal												
Marine Net	0.0	-21.1	-100.0%	0.0	0.0	0.0%	0.0	-2.2	-100.0%	0.0	-22.1	-100.0%
Freshwater Net	0.0	0.0	-100.0%	0.0	-3.2	-100.0%	0.0	0.0	0.0%	0.0	-3.5	-100.0%
Tribal Subtotal	0.0	-21.2	-100.0%	0.0	-3.2	-100.0%	0.0	-2.2	-100.0%	0.0	-25.6	-100.0%
Total	0.0	-41.6	-100.0%	0.0	-3.2	-100.0%	0.0	-2.2	-100.0%	0.0	-45.0	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-40.1	-100.0%	0.0	-0.2	-100.0%	0.0	0.0	0.0%	0.0	-38.8	-100.0%
Tribal												
Marine Net	0.0	-38.7	-100.0%	0.0	-1.4	-100.0%	0.0	-0.1	-100.0%	0.0	-38.8	-100.0%
Freshwater Net	0.0	-2.7	-100.0%	0.0	0.0	-100.0%	0.0	0.0	0.0%	0.0	-2.6	-100.0%
Tribal Subtotal	0.0	-41.4	-100.0%	0.0	-1.4	-100.0%	0.0	-0.1	-100.0%	0.0	-41.4	-100.0%
Total	0.0	-81.5	-100.0%	0.0	-1.6	-100.0%	0.0	-0.1	-100.0%	0.0	-80.2	-100.0%
Chum												
Non-tribal												
Marine Net	0.0	-15.5	-100.0%	0.0	-31.2	-100.0%	0.0	0.0	0.0%	0.0	-48.2	-100.0%
Tribal												
Marine Net	0.0	-13.0	-100.0%	0.0	-26.3	-100.0%	0.0	-1.4	-100.0%	0.0	-41.8	-100.0%
Freshwater Net	0.2	-8.6	-98.0%	5.2	-5.8	-52.6%	0.0	0.0	0.0%	5.8	-14.4	-71.3%
Tribal Subtotal	0.2	-21.7	-99.2%	5.2	-32.1	-86.0%	0.0	-1.4	-100.0%	5.8	-56.2	-90.6%
Total	0.2	-37.2	-99.5%	5.2	-63.3	-92.4%	0.0	-1.4	-100.0%	5.8	-104.4	-94.7%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%
Freshwater Net	0.0	0.0	-9.2%	0.0	0.0	-22.0%	0.1	0.0	-1.8%	0.1	0.0	-11.7%
Tribal Subtotal	0.0	0.0	-59.6%	0.0	0.0	-22.9%	0.1	0.0	-19.0%	0.1	-0.1	-31.8%
Total	0.0	0.0	-59.6%	0.0	0.0	-22.9%	0.1	0.0	-19.0%	0.1	-0.1	-31.8%
Total												
Non-tribal												
Marine Net	0.0	-81.6	-100.0%	0.0	-32.3	-100.0%	0.0	-0.2	-100.0%	0.0	-112.8	-100.0%
Tribal												
Marine Net	0.0	-84.5	-100.0%	0.0	-36.3	-100.0%	0.0	-5.7	-100.0%	0.0	-125.2	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%
Freshwater Net	0.2	-14.2	-98.6%	5.3	-19.9	-79.1%	0.1	-0.1	-70.0%	5.9	-35.1	-85.6%
Tribal Subtotal	0.2	-98.7	-99.8%	5.3	-56.3	-91.4%	0.1	-6.1	-99.0%	5.9	-160.6	-96.4%
Total	0.2	-180.3	-99.9%	5.3	-88.6	-94.4%	0.1	-6.2	-99.0%	5.9	-273.4	-97.9%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-16. Direct changes in harvesting sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.

Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	$122,828	$10,676	$0	$126,889
Tribal				
Marine Net	$150,229	$69,526	$7,533	$221,500
Marine Troll	$0	$0	$8,041	$7,714
Freshwater Net	$15,383	$168,303	$14	$190,520
Tribal Subtotal	$165,612	$237,830	$15,588	$419,735
Total	$288,441	$248,506	$15,588	$546,623
Coho				
Non-tribal				
Marine Net	$19,457	$7,249	$2,180	$27,234
Tribal				
Marine Net	$90,181	$91,097	$24,466	$198,848
Marine Troll	$0	$0	$998	$994
Freshwater Net	$32,199	$75,433	$1,945	$108,264
Tribal Subtotal	$122,380	$166,530	$27,409	$308,105
Total	$141,837	$173,779	$29,590	$335,339
Sockeye				
Non-tribal				
Marine Net	$736,768	$0	$0	$689,480
Tribal				
Marine Net	$763,703	$0	$76,712	$788,554
Freshwater Net	$689	$117,163	$0	$123,700
Tribal Subtotal	$764,392	$117,163	$76,712	$912,254
Total	$1,501,160	$117,163	$76,712	$1,601,734
Pink				
Non-tribal				
Marine Net	$753,599	$4,226	$0	$715,294
Tribal				
Marine Net	$726,365	$27,355	$1,432	$715,286
Freshwater Net	$50,763	$167	$0	$48,059
Tribal Subtotal	$777,128	$27,522	$1,432	$763,345
Total	$1,530,727	$31,748	$1,432	$1,478,639
Chum				
Non-tribal				
Marine Net	$77,981	$163,507	$0	$234,893
Tribal				
Marine Net	$65,635	$137,463	$5,804	$203,909
Freshwater Net	$44,332	$57,811	$0	$98,315
Tribal Subtotal	$109,967	$195,273	$5,804	$302,224
Total	$187,948	$358,780	$5,804	$537,117
Steelhead				
Non-tribal				
Marine Net	$0	$0	$0	$0
Tribal				
Marine Net	$598	$13	$248	$816
Freshwater Net	$480	$1,130	$1,169	$2,762
Tribal Subtotal	$1,078	$1,143	$1,417	$3,578
Total	$1,078	$1,143	$1,417	$3,578
Total				
Non-tribal				
Marine Net	$1,710,634	$185,657	$2,180	$1,793,789
Tribal				
Marine Net	$1,796,710	$325,455	$116,194	$2,128,913
Marine Troll	$0	$0	$9,039	$8,708
Freshwater Net	$143,847	$420,007	$3,128	$571,620
Tribal Subtotal	$1,940,557	$745,461	$128,362	$2,709,241
Total	$3,651,191	$931,118	$130,542	$4,503,030

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-16. Direct changes in harvesting sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$11	-$122,817	-100.0%	$0	-$10,676	-100.0%	$0	$0	0.0%	$11	-$126,878	-100.0%
Tribal												
Marine Net	$43,202	-$107,027	-71.2%	$0	-$69,526	-100.0%	$0	-$7,533	-100.0%	$40,703	-$180,798	-81.6%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$8,041	-100.0%	$0	-$7,714	-100.0%
Freshwater Net	$4,106	-$11,277	-73.3%	$204,481	$36,178	21.5%	$0	-$14	-100.0%	$217,717	$27,197	14.3%
Tribal Subtotal	$47,308	-$118,304	-71.4%	$204,481	-$33,348	-14.0%	$0	-$15,588	-100.0%	$258,419	-$161,315	-38.4%
Total	$47,319	-$241,121	-83.6%	$204,481	-$44,025	-17.7%	$0	-$15,588	-100.0%	$258,430	-$288,193	-52.7%
Coho												
Non-tribal												
Marine Net	$637	-$18,820	-96.7%	$0	-$7,249	-100.0%	$2,664	$483	22.2%	$3,156	-$24,078	-88.4%
Tribal												
Marine Net	$0	-$90,181	-100.0%	$0	-$91,097	-100.0%	$0	-$24,466	-100.0%	$0	-$198,848	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$998	-100.0%	$0	-$994	-100.0%
Freshwater Net	$37,869	$5,670	17.6%	$78,830	$3,396	4.5%	$1,857	-$88	-4.5%	$116,812	$8,548	7.9%
Tribal Subtotal	$37,869	-$84,511	-69.1%	$78,830	-$87,701	-52.7%	$1,857	-$25,553	-93.2%	$116,812	-$191,293	-62.1%
Total	$38,506	-$103,332	-72.9%	$78,830	-$94,949	-54.6%	$4,520	-$25,070	-84.7%	$119,967	-$215,371	-64.2%
Sockeye												
Non-tribal												
Marine Net	$0	-$736,768	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$689,480	-100.0%
Tribal												
Marine Net	$0	-$763,703	-100.0%	$0	$0	0.0%	$0	-$76,712	-100.0%	$0	-$788,554	-100.0%
Freshwater Net	$0	-$689	-100.0%	$0	-$117,163	-100.0%	$0	$0	0.0%	$0	-$123,700	-100.0%
Tribal Subtotal	$0	-$764,392	-100.0%	$0	-$117,163	-100.0%	$0	-$76,712	-100.0%	$0	-$912,254	-100.0%
Total	$0	-$1,501,160	-100.0%	$0	-$117,163	-100.0%	$0	-$76,712	-100.0%	$0	-$1,601,734	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$753,599	-100.0%	$0	-$4,226	-100.0%	$0	$0	0.0%	$0	-$715,294	-100.0%
Tribal												
Marine Net	$0	-$726,365	-100.0%	$0	-$27,355	-100.0%	$0	-$1,432	-100.0%	$0	-$715,286	-100.0%
Freshwater Net	$91,179	$40,416	79.6%	$25,619	$25,453	15257.6%	$0	$0	0.0%	$112,932	$64,872	135.0%
Tribal Subtotal	$91,179	-$685,949	-88.3%	$25,619	-$1,903	-6.9%	$0	-$1,432	-100.0%	$112,932	-$650,414	-85.2%
Total	$91,179	-$1,439,548	-94.0%	$25,619	-$6,128	-19.3%	$0	-$1,432	-100.0%	$112,932	-$1,365,708	-92.4%
Chum												
Non-tribal												
Marine Net	$0	-$77,981	-100.0%	$0	-$163,507	-100.0%	$0	$0	0.0%	$0	-$234,893	-100.0%
Tribal												
Marine Net	$0	-$65,635	-100.0%	$0	-$137,463	-100.0%	$0	-$5,804	-100.0%	$0	-$203,909	-100.0%
Freshwater Net	$1,484	-$42,848	-96.7%	$109,632	$51,822	89.6%	$1	$1	0.0%	$111,230	$12,915	13.1%
Tribal Subtotal	$1,484	-$108,483	-98.7%	$109,632	-$85,641	-43.9%	$1	-$5,803	-100.0%	$111,230	-$190,994	-63.2%
Total	$1,484	-$186,464	-99.2%	$109,632	-$249,147	-69.4%	$1	-$5,803	-100.0%	$111,230	-$425,887	-79.3%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$598	-100.0%	$0	-$13	-100.0%	$0	-$248	-100.0%	$0	-$816	-100.0%
Freshwater Net	$436	-$44	-9.2%	$1,125	-$5	-0.5%	$1,150	-$19	-1.6%	$2,697	-$65	-2.4%
Tribal Subtotal	$436	-$642	-59.6%	$1,125	-$18	-1.6%	$1,150	-$267	-18.8%	$2,697	-$881	-24.6%
Total	$436	-$642	-59.6%	$1,125	-$18	-1.6%	$1,150	-$267	-18.8%	$2,697	-$881	-24.6%
Total												
Non-tribal												
Marine Net	$648	-$1,709,985	-100.0%	$0	-$185,657	-100.0%	$2,664	$483	22.2%	$3,167	-$1,790,623	-99.8%
Tribal												
Marine Net	$43,202	-$1,753,509	-97.6%	$0	-$325,455	-100.0%	$0	-$116,194	-100.0%	$40,703	-$2,088,210	-98.1%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$9,039	-100.0%	$0	-$8,708	-100.0%
Freshwater Net	$135,074	-$8,773	-6.1%	$419,688	-$319	-0.1%	$3,008	-$120	-3.8%	$561,387	-$10,234	-1.8%
Tribal Subtotal	$178,276	-$1,762,282	-90.8%	$419,688	-$325,774	-43.7%	$3,008	-$125,353	-97.7%	$602,090	-$2,107,151	-77.8%
Total	$178,924	-$3,472,267	-95.1%	$419,688	-$511,431	-54.9%	$5,672	-$124,870	-95.7%	$605,256	-$3,897,774	-86.6%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-16. Direct changes in harvesting sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$11	-$122,817	-100.0%	$0	-$10,676	-100.0%	$0	$0	0.0%	$11	-$126,878	-100.0%
Tribal												
Marine Net	$0	-$150,229	-100.0%	$0	-$69,526	-100.0%	$0	-$7,533	-100.0%	$0	-$221,500	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$8,041	-100.0%	$0	-$7,714	-100.0%
Freshwater Net	$0	-$15,383	-100.0%	$204,481	$36,178	21.5%	$0	-$14	-100.0%	$213,848	$23,328	12.2%
Tribal Subtotal	$0	-$165,612	-100.0%	$204,481	-$33,348	-14.0%	$0	-$15,588	-100.0%	$213,848	-$205,887	-49.1%
Total	$11	-$288,429	-100.0%	$204,481	-$44,025	-17.7%	$0	-$15,588	-100.0%	$213,859	-$332,765	-60.9%
Coho												
Non-tribal												
Marine Net	$637	-$18,820	-96.7%	$0	-$7,249	-100.0%	$2,664	$483	22.2%	$3,156	-$24,078	-88.4%
Tribal												
Marine Net	$0	-$90,181	-100.0%	$0	-$91,097	-100.0%	$0	-$24,466	-100.0%	$0	-$198,848	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$998	-100.0%	$0	-$994	-100.0%
Freshwater Net	$163	-$32,036	-99.5%	$78,830	$3,396	4.5%	$1,857	-$88	-4.5%	$82,471	-$25,792	-23.8%
Tribal Subtotal	$163	-$122,217	-99.9%	$78,830	-$87,701	-52.7%	$1,857	-$25,553	-93.2%	$82,471	-$225,634	-73.2%
Total	$800	-$141,037	-99.4%	$78,830	-$94,949	-54.6%	$4,520	-$25,070	-84.7%	$85,627	-$249,711	-74.5%
Sockeye												
Non-tribal												
Marine Net	$0	-$736,768	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$689,480	-100.0%
Tribal												
Marine Net	$0	-$763,703	-100.0%	$0	$0	0.0%	$0	-$76,712	-100.0%	$0	-$788,554	-100.0%
Freshwater Net	$0	-$689	-100.0%	$0	-$117,163	-100.0%	$0	$0	0.0%	$0	-$123,700	-100.0%
Tribal Subtotal	$0	-$764,392	-100.0%	$0	-$117,163	-100.0%	$0	-$76,712	-100.0%	$0	-$912,254	-100.0%
Total	$0	-$1,501,160	-100.0%	$0	-$117,163	-100.0%	$0	-$76,712	-100.0%	$0	-$1,601,734	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$753,599	-100.0%	$0	-$4,226	-100.0%	$0	$0	0.0%	$0	-$715,294	-100.0%
Tribal												
Marine Net	$0	-$726,365	-100.0%	$0	-$27,355	-100.0%	$0	-$1,432	-100.0%	$0	-$715,286	-100.0%
Freshwater Net	$0	-$50,763	-100.0%	$25,619	$25,453	15257.6%	$0	$0	0.0%	$26,924	-$21,135	-44.0%
Tribal Subtotal	$0	-$777,128	-100.0%	$25,619	-$1,903	-6.9%	$0	-$1,432	-100.0%	$26,924	-$736,421	-96.5%
Total	$0	-$1,530,727	-100.0%	$25,619	-$6,128	-19.3%	$0	-$1,432	-100.0%	$26,924	-$1,451,715	-98.2%
Chum												
Non-tribal												
Marine Net	$0	-$77,981	-100.0%	$0	-$163,507	-100.0%	$0	$0	0.0%	$0	-$234,893	-100.0%
Tribal												
Marine Net	$0	-$65,635	-100.0%	$0	-$137,463	-100.0%	$0	-$5,804	-100.0%	$0	-$203,909	-100.0%
Freshwater Net	$868	-$43,465	-98.0%	$109,632	$51,822	89.6%	$1	$1	0.0%	$110,669	$12,354	12.6%
Tribal Subtotal	$868	-$109,099	-99.2%	$109,632	-$85,641	-43.9%	$1	-$5,803	-100.0%	$110,669	-$191,555	-63.4%
Total	$868	-$187,081	-99.5%	$109,632	-$249,147	-69.4%	$1	-$5,803	-100.0%	$110,669	-$426,448	-79.4%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$598	-100.0%	$0	-$13	-100.0%	$0	-$248	-100.0%	$0	-$816	-100.0%
Freshwater Net	$436	-$44	-9.2%	$1,125	-$5	-0.5%	$1,150	-$19	-1.6%	$2,697	-$65	-2.4%
Tribal Subtotal	$436	-$642	-59.6%	$1,125	-$18	-1.6%	$1,150	-$267	-18.8%	$2,697	-$881	-24.6%
Total	$436	-$642	-59.6%	$1,125	-$18	-1.6%	$1,150	-$267	-18.8%	$2,697	-$881	-24.6%
Total												
Non-tribal												
Marine Net	$648	-$1,709,985	-100.0%	$0	-$185,657	-100.0%	$2,664	$483	22.2%	$3,167	-$1,790,623	-99.8%
Tribal												
Marine Net	$0	-$1,796,710	-100.0%	$0	-$325,455	-100.0%	$0	-$116,194	-100.0%	$0	-$2,128,913	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$9,039	-100.0%	$0	-$8,708	-100.0%
Freshwater Net	$1,467	-$142,380	-99.0%	$419,688	-$319	-0.1%	$3,008	-$120	-3.8%	$436,609	-$135,011	-23.6%
Tribal Subtotal	$1,467	-$1,939,091	-99.9%	$419,688	-$325,774	-43.7%	$3,008	-$125,353	-97.7%	$436,609	-$2,272,632	-83.9%
Total	$2,115	-$3,649,076	-99.9%	$419,688	-$511,431	-54.9%	$5,672	-$124,870	-95.7%	$439,776	-$4,063,255	-90.2%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-16. Direct changes in harvesting sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$0	-$122,828	-100.0%	$0	-$10,676	-100.0%	$0	$0	0.0%	$0	-$126,889	-100.0%
Tribal												
Marine Net	$0	-$150,229	-100.0%	$0	-$69,526	-100.0%	$0	-$7,533	-100.0%	$0	-$221,500	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$8,041	-100.0%	$0	-$7,714	-100.0%
Freshwater Net	$0	-$15,383	-100.0%	$0	-$168,303	-100.0%	$0	-$14	-100.0%	$0	-$190,520	-100.0%
Tribal Subtotal	$0	-$165,612	-100.0%	$0	-$237,830	-100.0%	$0	-$15,588	-100.0%	$0	-$419,735	-100.0%
Total	$0	-$288,441	-100.0%	$0	-$248,506	-100.0%	$0	-$15,588	-100.0%	$0	-$546,623	-100.0%
Coho												
Non-tribal												
Marine Net	$0	-$19,457	-100.0%	$0	-$7,249	-100.0%	$0	-$2,180	-100.0%	$0	-$27,234	-100.0%
Tribal												
Marine Net	$0	-$90,181	-100.0%	$0	-$91,097	-100.0%	$0	-$24,466	-100.0%	$0	-$198,848	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$998	-100.0%	$0	-$994	-100.0%
Freshwater Net	$0	-$32,199	-100.0%	$0	-$75,433	-100.0%	$0	-$1,945	-100.0%	$0	-$108,264	-100.0%
Tribal Subtotal	$0	-$122,380	-100.0%	$0	-$166,530	-100.0%	$0	-$27,409	-100.0%	$0	-$308,105	-100.0%
Total	$0	-$141,837	-100.0%	$0	-$173,779	-100.0%	$0	-$29,590	-100.0%	$0	-$335,339	-100.0%
Sockeye												
Non-tribal												
Marine Net	$0	-$736,768	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$689,480	-100.0%
Tribal												
Marine Net	$0	-$763,703	-100.0%	$0	$0	0.0%	$0	-$76,712	-100.0%	$0	-$788,554	-100.0%
Freshwater Net	$0	-$689	-100.0%	$0	-$117,163	-100.0%	$0	$0	0.0%	$0	-$123,700	-100.0%
Tribal Subtotal	$0	-$764,392	-100.0%	$0	-$117,163	-100.0%	$0	-$76,712	-100.0%	$0	-$912,254	-100.0%
Total	$0	-$1,501,160	-100.0%	$0	-$117,163	-100.0%	$0	-$76,712	-100.0%	$0	-$1,601,734	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$753,599	-100.0%	$0	-$4,226	-100.0%	$0	$0	0.0%	$0	-$715,294	-100.0%
Tribal												
Marine Net	$0	-$726,365	-100.0%	$0	-$27,355	-100.0%	$0	-$1,432	-100.0%	$0	-$715,286	-100.0%
Freshwater Net	$0	-$50,763	-100.0%	$0	-$167	-100.0%	$0	$0	0.0%	$0	-$48,059	-100.0%
Tribal Subtotal	$0	-$777,128	-100.0%	$0	-$27,522	-100.0%	$0	-$1,432	-100.0%	$0	-$763,345	-100.0%
Total	$0	-$1,530,727	-100.0%	$0	-$31,748	-100.0%	$0	-$1,432	-100.0%	$0	-$1,478,639	-100.0%
Chum												
Non-tribal												
Marine Net	$0	-$77,981	-100.0%	$0	-$163,507	-100.0%	$0	$0	0.0%	$0	-$234,893	-100.0%
Tribal												
Marine Net	$0	-$65,635	-100.0%	$0	-$137,463	-100.0%	$0	-$5,804	-100.0%	$0	-$203,909	-100.0%
Freshwater Net	$868	-$43,465	-98.0%	$27,406	-$30,405	-52.6%	$1	$1	0.0%	$28,259	-$70,057	-71.3%
Tribal Subtotal	$868	-$109,099	-99.2%	$27,406	-$167,867	-86.0%	$1	-$5,803	-100.0%	$28,259	-$273,965	-90.6%
Total	$868	-$187,081	-99.5%	$27,406	-$331,374	-92.4%	$1	-$5,803	-100.0%	$28,259	-$508,859	-94.7%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$598	-100.0%	$0	-$13	-100.0%	$0	-$248	-100.0%	$0	-$816	-100.0%
Freshwater Net	$436	-$44	-9.2%	$882	-$248	-22.0%	$1,149	-$21	-1.8%	$2,440	-$322	-11.7%
Tribal Subtotal	$436	-$642	-59.6%	$882	-$261	-22.9%	$1,149	-$269	-19.0%	$2,440	-$1,138	-31.8%
Total	$436	-$642	-59.6%	$882	-$261	-22.9%	$1,149	-$269	-19.0%	$2,440	-$1,138	-31.8%
Total												
Non-tribal												
Marine Net	$0	-$1,710,634	-100.0%	$0	-$185,657	-100.0%	$0	-$2,180	-100.0%	$0	-$1,793,789	-100.0%
Tribal												
Marine Net	$0	-$1,796,710	-100.0%	$0	-$325,455	-100.0%	$0	-$116,194	-100.0%	$0	-$2,128,913	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$9,039	-100.0%	$0	-$8,708	-100.0%
Freshwater Net	$1,303	-$142,544	-99.1%	$28,288	-$391,719	-93.3%	$1,150	-$1,978	-63.2%	$30,698	-$540,922	-94.6%
Tribal Subtotal	$1,303	-$1,939,254	-99.9%	$28,288	-$717,174	-96.2%	$1,150	-$127,212	-99.1%	$30,698	-$2,678,543	-98.9%
Total	$1,303	-$3,649,888	-100.0%	$28,288	-$902,831	-97.0%	$1,150	-$129,392	-99.1%	$30,698	-$4,472,332	-99.3%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-17. Direct changes in processing sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

Specie	Alternative 1 - Proposed Action/Status Quo			
	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	$107,298	$9,284	$0	$112,790
Tribal				
Marine Net	$131,235	$60,458	$6,706	$196,889
Marine Troll	$0	$0	$4,742	$4,641
Freshwater Net	$13,438	$146,351	$13	$169,351
Tribal Subtotal	$144,673	$206,808	$11,461	$370,881
Total	$251,971	$216,092	$11,461	$483,671
Coho				
Non-tribal				
Marine Net	$34,842	$13,047	$4,081	$51,300
Tribal				
Marine Net	$161,487	$163,974	$45,796	$374,573
Marine Troll	$0	$0	$1,834	$1,798
Freshwater Net	$57,659	$135,780	$3,640	$203,939
Tribal Subtotal	$219,146	$299,755	$51,271	$580,310
Total	$253,988	$312,802	$55,352	$631,611
Sockeye				
Non-tribal				
Marine Net	$513,710	$0	$0	$492,486
Tribal				
Marine Net	$532,490	$0	$54,901	$563,253
Freshwater Net	$481	$83,247	$0	$88,357
Tribal Subtotal	$532,971	$83,247	$54,901	$651,610
Total	$1,046,680	$83,247	$54,901	$1,144,096
Pink				
Non-tribal				
Marine Net	$1,009,285	$5,658	$0	$986,613
Tribal				
Marine Net	$972,810	$36,628	$1,945	$986,601
Freshwater Net	$67,987	$223	$0	$66,289
Tribal Subtotal	$1,040,797	$36,852	$1,945	$1,052,890
Total	$2,050,081	$42,510	$1,945	$2,039,502
Chum				
Non-tribal				
Marine Net	$389,907	$807,314	$0	$1,221,444
Tribal				
Marine Net	$328,174	$678,723	$34,341	$1,060,327
Freshwater Net	$221,661	$285,439	$0	$511,239
Tribal Subtotal	$549,835	$964,162	$34,341	$1,571,566
Total	$939,742	$1,771,476	$34,341	$2,793,010
Steelhead				
Non-tribal				
Marine Net	$0	$0	$0	$0
Tribal				
Marine Net	$801	$18	$337	$1,407
Freshwater Net	$642	$1,513	$1,588	$4,762
Tribal Subtotal	$1,443	$1,531	$1,925	$6,169
Total	$1,443	$1,531	$1,925	$6,169
Total				
Non-tribal				
Marine Net	$2,055,041	$835,303	$4,081	$2,864,633
Tribal				
Marine Net	$2,126,996	$939,801	$144,026	$3,183,050
Marine Troll	$0	$0	$6,576	$6,439
Freshwater Net	$361,868	$652,554	$5,241	$1,043,937
Tribal Subtotal	$2,488,865	$1,592,354	$155,844	$4,233,426
Total	$4,543,906	$2,427,658	$159,926	$7,098,058

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-17. Direct changes in processing sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$10	-$107,288	-100.0%	$0	-$9,284	-100.0%	$0	$0	0.0%	$10	-$112,780	-100.0%
Tribal												
Marine Net	$37,740	-$93,495	-71.2%	$0	-$60,458	-100.0%	$0	-$6,706	-100.0%	$36,180	-$160,709	-81.6%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$4,742	-100.0%	$0	-$4,641	-100.0%
Freshwater Net	$3,587	-$9,851	-73.3%	$177,810	$31,459	21.5%	$0	-$13	-100.0%	$193,526	$24,175	14.3%
Tribal Subtotal	$41,326	-$103,346	-71.4%	$177,810	-$28,999	-14.0%	$0	-$11,461	-100.0%	$229,706	-$141,175	-38.1%
Total	$41,336	-$210,635	-83.6%	$177,810	-$38,282	-17.7%	$0	-$11,461	-100.0%	$229,716	-$253,955	-52.5%
Coho												
Non-tribal												
Marine Net	$1,141	-$33,701	-96.7%	$0	-$13,047	-100.0%	$4,986	$905	22.2%	$5,945	-$45,356	-88.4%
Tribal												
Marine Net	$0	-$161,487	-100.0%	$0	-$163,974	-100.0%	$0	-$45,796	-100.0%	$0	-$374,573	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$1,834	-100.0%	$0	-$1,798	-100.0%
Freshwater Net	$67,812	$10,153	17.6%	$141,894	$6,113	4.5%	$3,475	-$165	-4.5%	$220,040	$16,102	7.9%
Tribal Subtotal	$67,812	-$151,334	-69.1%	$141,894	-$157,861	-52.7%	$3,475	-$47,796	-93.2%	$220,040	-$360,270	-62.1%
Total	$68,953	-$185,035	-72.9%	$141,894	-$170,908	-54.6%	$8,461	-$46,891	-84.7%	$225,985	-$405,625	-64.2%
Sockeye												
Non-tribal												
Marine Net	$0	-$513,710	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$492,486	-100.0%
Tribal												
Marine Net	$0	-$532,490	-100.0%	$0	$0	0.0%	$0	-$54,901	-100.0%	$0	-$563,253	-100.0%
Freshwater Net	$0	-$481	-100.0%	$0	-$83,247	-100.0%	$0	$0	0.0%	$0	-$88,357	-100.0%
Tribal Subtotal	$0	-$532,971	-100.0%	$0	-$83,247	-100.0%	$0	-$54,901	-100.0%	$0	-$651,610	-100.0%
Total	$0	-$1,046,680	-100.0%	$0	-$83,247	-100.0%	$0	-$54,901	-100.0%	$0	-$1,144,096	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$1,009,285	-100.0%	$0	-$5,658	-100.0%	$0	$0	0.0%	$0	-$986,613	-100.0%
Tribal												
Marine Net	$0	-$972,810	-100.0%	$0	-$36,628	-100.0%	$0	-$1,945	-100.0%	$0	-$986,601	-100.0%
Freshwater Net	$122,115	$54,128	79.6%	$34,304	$34,081	15257.6%	$0	$0	0.0%	$155,768	$89,479	135.0%
Tribal Subtotal	$122,115	-$918,682	-88.3%	$34,304	-$2,548	-6.9%	$0	-$1,945	-100.0%	$155,768	-$897,122	-85.2%
Total	$122,115	-$1,927,966	-94.0%	$34,304	-$8,206	-19.3%	$0	-$1,945	-100.0%	$155,768	-$1,883,735	-92.4%
Chum												
Non-tribal												
Marine Net	$0	-$389,907	-100.0%	$0	-$807,314	-100.0%	$0	$0	0.0%	$0	-$1,221,444	-100.0%
Tribal												
Marine Net	$0	-$328,174	-100.0%	$0	-$678,723	-100.0%	$0	-$34,341	-100.0%	$0	-$1,060,327	-100.0%
Freshwater Net	$7,420	-$214,241	-96.7%	$541,310	$255,871	89.6%	$8	$8	0.0%	$578,398	$67,159	13.1%
Tribal Subtotal	$7,420	-$542,415	-98.7%	$541,310	-$422,852	-43.9%	$8	-$34,333	-100.0%	$578,398	-$993,168	-63.2%
Total	$7,420	-$932,322	-99.2%	$541,310	-$1,230,166	-69.4%	$8	-$34,333	-100.0%	$578,398	-$2,214,612	-79.3%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$801	-100.0%	$0	-$18	-100.0%	$0	-$337	-100.0%	$0	-$1,407	-100.0%
Freshwater Net	$583	-$59	-9.2%	$1,506	-$7	-0.5%	$1,563	-$26	-1.6%	$4,650	-$112	-2.4%
Tribal Subtotal	$583	-$860	-59.6%	$1,506	-$25	-1.6%	$1,563	-$363	-18.8%	$4,650	-$1,519	-24.6%
Total	$583	-$860	-59.6%	$1,506	-$25	-1.6%	$1,563	-$363	-18.8%	$4,650	-$1,519	-24.6%
Total												
Non-tribal												
Marine Net	$1,151	-$2,053,891	-99.9%	$0	-$835,303	-100.0%	$4,986	$905	22.2%	$5,954	-$2,858,679	-99.8%
Tribal												
Marine Net	$37,740	-$2,089,257	-98.2%	$0	-$939,801	-100.0%	$0	-$144,026	-100.0%	$36,180	-$3,146,870	-98.9%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$6,576	-100.0%	$0	-$6,439	-100.0%
Freshwater Net	$201,518	-$160,351	-44.3%	$896,824	$244,270	37.4%	$5,046	-$195	-3.7%	$1,152,381	$108,444	10.4%
Tribal Subtotal	$239,257	-$2,249,608	-90.4%	$896,824	-$695,531	-43.7%	$5,046	-$150,798	-96.8%	$1,188,562	-$3,044,864	-71.9%
Total	$240,408	-$4,303,498	-94.7%	$896,824	-$1,530,834	-63.1%	$10,032	-$149,894	-93.7%	$1,194,516	-$5,903,543	-83.2%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-17. Direct changes in processing sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only												
North Puget Sound			SPS/SHC*			SJF/NHC*			State			
Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change	
$10	-$107,288	-100.0%	$0	-$9,284	-100.0%	$0	$0	0.0%	$10	-$112,780	-100.0%	
$0	-$131,235	-100.0%	$0	-$60,458	-100.0%	$0	-$6,706	-100.0%	$0	-$196,889	-100.0%	
$0	$0	0.0%	$0	$0	0.0%	$0	-$4,742	-100.0%	$0	-$4,641	-100.0%	
$0	-$13,438	-100.0%	$177,810	$31,459	21.5%	$0	-$13	-100.0%	$190,087	$20,736	12.2%	
$0	-$144,673	-100.0%	$177,810	-$28,999	-14.0%	$0	-$11,461	-100.0%	$190,087	-$180,794	-48.7%	
$10	-$251,961	-100.0%	$177,810	-$38,282	-17.7%	$0	-$11,461	-100.0%	$190,097	-$293,574	-60.7%	
$1,141	-$33,701	-96.7%	$0	-$13,047	-100.0%	$4,986	$905	22.2%	$5,945	-$45,356	-88.4%	
$0	-$161,487	-100.0%	$0	-$163,974	-100.0%	$0	-$45,796	-100.0%	$0	-$374,573	-100.0%	
$0	$0	0.0%	$0	$0	0.0%	$0	-$1,834	-100.0%	$0	-$1,798	-100.0%	
$293	-$57,366	-99.5%	$141,894	$6,113	4.5%	$3,475	-$165	-4.5%	$155,353	-$48,586	-23.8%	
$293	-$218,854	-99.9%	$141,894	-$157,861	-52.7%	$3,475	-$47,796	-93.2%	$155,353	-$424,957	-73.2%	
$1,433	-$252,555	-99.4%	$141,894	-$170,908	-54.6%	$8,461	-$46,891	-84.7%	$161,297	-$470,313	-74.5%	
$0	-$513,710	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$492,486	-100.0%	
$0	-$532,490	-100.0%	$0	$0	0.0%	$0	-$54,901	-100.0%	$0	-$563,253	-100.0%	
$0	-$481	-100.0%	$0	-$83,247	-100.0%	$0	$0	0.0%	$0	-$88,357	-100.0%	
$0	-$532,971	-100.0%	$0	-$83,247	-100.0%	$0	-$54,901	-100.0%	$0	-$651,610	-100.0%	
$0	-$1,046,680	-100.0%	$0	-$83,247	-100.0%	$0	-$54,901	-100.0%	$0	-$1,144,096	-100.0%	
$0	-$1,009,285	-100.0%	$0	-$5,658	-100.0%	$0	$0	0.0%	$0	-$986,613	-100.0%	
$0	-$972,810	-100.0%	$0	-$36,628	-100.0%	$0	-$1,945	-100.0%	$0	-$986,601	-100.0%	
$0	-$67,987	-100.0%	$34,304	$34,081	15257.6%	$0	$0	0.0%	$37,137	-$29,152	-44.0%	
$0	-$1,040,797	-100.0%	$34,304	-$2,548	-6.9%	$0	-$1,945	-100.0%	$37,137	-$1,015,753	-96.5%	
$0	-$2,050,081	-100.0%	$34,304	-$8,206	-19.3%	$0	-$1,945	-100.0%	$37,137	-$2,002,366	-98.2%	
$0	-$389,907	-100.0%	$0	-$807,314	-100.0%	$0	$0	0.0%	$0	-$1,221,444	-100.0%	
$0	-$328,174	-100.0%	$0	-$678,723	-100.0%	$0	-$34,341	-100.0%	$0	-$1,060,327	-100.0%	
$4,338	-$217,323	-98.0%	$541,310	$255,871	89.6%	$8	$8	0.0%	$575,478	$64,239	12.6%	
$4,338	-$545,497	-99.2%	$541,310	-$422,852	-43.9%	$8	-$34,333	-100.0%	$575,478	-$996,088	-63.4%	
$4,338	-$935,404	-99.5%	$541,310	-$1,230,166	-69.4%	$8	-$34,333	-100.0%	$575,478	-$2,217,532	-79.4%	
$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	
$0	-$801	-100.0%	$0	-$18	-100.0%	$0	-$337	-100.0%	$0	-$1,407	-100.0%	
$583	-$59	-9.2%	$1,506	-$7	-0.5%	$1,563	-$26	-1.6%	$4,650	-$112	-2.4%	
$583	-$860	-59.6%	$1,506	-$25	-1.6%	$1,563	-$363	-18.8%	$4,650	-$1,519	-24.6%	
$583	-$860	-59.6%	$1,506	-$25	-1.6%	$1,563	-$363	-18.8%	$4,650	-$1,519	-24.6%	
$1,151	-$2,053,891	-99.9%	$0	-$835,303	-100.0%	$4,986	$905	22.2%	$5,954	-$2,858,679	-99.8%	
$0	-$2,126,996	-100.0%	$0	-$939,801	-100.0%	$0	-$144,026	-100.0%	$0	-$3,183,050	-100.0%	
$0	$0	0.0%	$0	$0	0.0%	$0	-$6,576	-100.0%	$0	-$6,439	-100.0%	
$5,214	-$356,654	-98.6%	$896,824	$244,270	37.4%	$5,046	-$195	-3.7%	$962,705	-$81,232	-7.8%	
$5,214	-$2,483,651	-99.8%	$896,824	-$695,531	-43.7%	$5,046	-$150,798	-96.8%	$962,705	-$3,270,721	-77.3%	
$6,365	-$4,537,541	-99.9%	$896,824	-$1,530,834	-63.1%	$10,032	-$149,894	-93.7%	$968,659	-$6,129,400	-86.4%	

Table D-17. Direct changes in processing sector personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives. Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

Alternative 4 - No Fishing											
North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
$0	-$107,298	-100.0%	$0	-$9,284	-100.0%	$0	$0	0.0%	$0	-$112,790	-100.0%
$0	-$131,235	-100.0%	$0	-$60,458	-100.0%	$0	-$6,706	-100.0%	$0	-$196,889	-100.0%
$0	$0	0.0%	$0	$0	0.0%	$0	-$4,742	-100.0%	$0	-$4,641	-100.0%
$0	-$13,438	-100.0%	$0	-$146,351	-100.0%	$0	-$13	-100.0%	$0	-$169,351	-100.0%
$0	-$144,673	-100.0%	$0	-$206,808	-100.0%	$0	-$11,461	-100.0%	$0	-$370,881	-100.0%
$0	-$251,971	-100.0%	$0	-$216,092	-100.0%	$0	-$11,461	-100.0%	$0	-$483,671	-100.0%
$0	-$34,842	-100.0%	$0	-$13,047	-100.0%	$0	-$4,081	-100.0%	$0	-$51,300	-100.0%
$0	-$161,487	-100.0%	$0	-$163,974	-100.0%	$0	-$45,796	-100.0%	$0	-$374,573	-100.0%
$0	$0	0.0%	$0	$0	0.0%	$0	-$1,834	-100.0%	$0	-$1,798	-100.0%
$0	-$57,659	-100.0%	$0	-$135,780	-100.0%	$0	-$3,640	-100.0%	$0	-$203,939	-100.0%
$0	-$219,146	-100.0%	$0	-$299,755	-100.0%	$0	-$51,271	-100.0%	$0	-$580,310	-100.0%
$0	-$253,988	-100.0%	$0	-$312,802	-100.0%	$0	-$55,352	-100.0%	$0	-$631,611	-100.0%
$0	-$513,710	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$492,486	-100.0%
$0	-$532,490	-100.0%	$0	$0	0.0%	$0	-$54,901	-100.0%	$0	-$563,253	-100.0%
$0	-$481	-100.0%	$0	-$83,247	-100.0%	$0	$0	0.0%	$0	-$88,357	-100.0%
$0	-$532,971	-100.0%	$0	-$83,247	-100.0%	$0	-$54,901	-100.0%	$0	-$651,610	-100.0%
$0	-$1,046,680	-100.0%	$0	-$83,247	-100.0%	$0	-$54,901	-100.0%	$0	-$1,144,096	-100.0%
$0	-$1,009,285	-100.0%	$0	-$5,658	-100.0%	$0	$0	0.0%	$0	-$986,613	-100.0%
$0	-$972,810	-100.0%	$0	-$36,628	-100.0%	$0	-$1,945	-100.0%	$0	-$986,601	-100.0%
$0	-$67,987	-100.0%	$0	-$223	-100.0%	$0	$0	0.0%	$0	-$66,289	-100.0%
$0	-$1,040,797	-100.0%	$0	-$36,852	-100.0%	$0	-$1,945	-100.0%	$0	-$1,052,890	-100.0%
$0	-$2,050,081	-100.0%	$0	-$42,510	-100.0%	$0	-$1,945	-100.0%	$0	-$2,039,502	-100.0%
$0	-$389,907	-100.0%	$0	-$807,314	-100.0%	$0	$0	0.0%	$0	-$1,221,444	-100.0%
$0	-$328,174	-100.0%	$0	-$678,723	-100.0%	$0	-$34,341	-100.0%	$0	-$1,060,327	-100.0%
$4,338	-$217,323	-98.0%	$135,316	-$150,123	-52.6%	$8	$8	0.0%	$146,945	-$364,294	-71.3%
$4,338	-$545,497	-99.2%	$135,316	-$828,846	-86.0%	$8	-$34,333	-100.0%	$146,945	-$1,424,620	-90.6%
$4,338	-$935,404	-99.5%	$135,316	-$1,636,160	-92.4%	$8	-$34,333	-100.0%	$146,945	-$2,646,065	-94.7%
$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
$0	-$801	-100.0%	$0	-$18	-100.0%	$0	-$337	-100.0%	$0	-$1,407	-100.0%
$583	-$59	-9.2%	$1,181	-$332	-22.0%	$1,560	-$28	-1.8%	$4,207	-$555	-11.7%
$583	-$860	-59.6%	$1,181	-$350	-22.9%	$1,560	-$365	-19.0%	$4,207	-$1,962	-31.8%
$583	-$860	-59.6%	$1,181	-$350	-22.9%	$1,560	-$365	-19.0%	$4,207	-$1,962	-31.8%
$0	-$2,055,041	-100.0%	$0	-$835,303	-100.0%	$0	-$4,081	-100.0%	$0	-$2,864,633	-100.0%
$0	-$2,126,996	-100.0%	$0	-$939,801	-100.0%	$0	-$144,026	-100.0%	$0	-$3,183,050	-100.0%
$0	$0	0.0%	$0	$0	0.0%	$0	-$6,576	-100.0%	$0	-$6,439	-100.0%
$4,922	-$356,947	-98.6%	$136,497	-$516,057	-79.1%	$1,568	-$3,673	-70.1%	$151,152	-$892,785	-85.5%
$4,922	-$2,483,943	-99.8%	$136,497	-$1,455,857	-91.4%	$1,568	-$154,276	-99.0%	$151,152	-$4,082,274	-96.4%
$4,922	-$4,538,985	-99.9%	$136,497	-$2,291,161	-94.4%	$1,568	-$158,357	-99.0%	$151,152	-$6,946,907	-97.9%

D3 Sport Fishing Activity and Values

D3.1 Methods

Estimates of the number of sport fishing trips in marine and fresh waters of Puget Sound were developed for each alternative by the fishery modeling group and provided to the economic analysis team. For purposes of the economic analysis, these estimates of sport fishing trips were assigned to one of the three economic regions where they occurred (freshwater trips) or to the marina or launch area where they originated (marine trips). The number of trips and the level of spending by residents and non-residents of the region also were estimated to evaluate the effects on the regional economy. Lastly, the net economic value (net benefits to anglers) associated with the alternatives was estimated. The following steps were undertaken to accomplish these tasks.

D3.1.1 Step 1: Allocate Sport Fishing Trips to Economic Regions

Estimated sport fishing trips in *marine waters* were allocated to the economic regions based on angler catch records information from the Washington Department of Fish and Wildlife (WDFW). The WDFW data report the percentage of the 2001 sport harvest in each Marine Catch Area that was caught by persons residing in each county and region. Using this information, the estimated number of sport fishing trips was allocated to the three economic regions as shown in Table D-18.

Table D-18. Allocation of marine and freshwater sport fishing trips to each economic region.

Region	Marine	Freshwater
Strait of Juan de Fuca/ South Hood Canal	49.9%	8.1%
South Puget Sound/ South Hood Canal	32.8%	40.2%
North Puget Sound	17.3%	51.7%

Estimated sport fishing trips in *fresh waters* were allocated to the economic regions based on the location where the streams and rivers are located (Table D-18). In cases where the predicted number of sport fishing trips in fresh waters included trips in rivers and streams in more than one economic region (e.g., Marine Catch Areas 8 and 9 and Marine Catch Area 12), the trips were apportioned based on the percentage of the trips that occurred in each region. For Marine Catch Areas 8 and 9, it was estimated that about 90 percent of the trips were to fresh waters in the North Puget Sound region and 10 percent of the trips were to rivers and streams in the Strait of Juan de Fuca/North Hood Canal region. For Marine Catch Area 12, it was estimated that about 83 percent of the trips were to rivers and streams in

the South Puget Sound/South Hood Canal region, and that 17 percent of the trips were to rivers and streams in the Strait of Juan de Fuca/North Hood Canal region.

D3.1.2 Step 2: Allocate Sport Fishing Trips to Locals and Non-Locals

The number of sport fishing trips by region (Step 1) was then apportioned to trips made by local residents (i.e., residents of a region of interest), trips made by non-local residents (i.e., persons who live outside the region of interest but within the state), and trips made by non-residents (i.e., persons who live outside the state). The percentages of trips made by local residents, non-local residents, and non-residents were derived from Washington Department of Fish and Wildlife information on the proportion of the 2001 sport catch of salmon in marine waters by county of origin of anglers (Table D.A-12). For example, the average proportion of the 2001 sport harvest in catch areas 5 and 6 (the primary catch areas in proximity to the Strait of Juan de Fuca/South Hood Canal region) caught by persons living in Clallam and Jefferson Counties was 42 percent (16.8% + 67.6% divided by 2). Similar calculations were made for the proportion of catch by persons residing in the South Puget Sound/South Hood Canal region (85 percent) and North Puget Sound Region (72%). Note that the calculated proportion for persons residing in the South Puget Sound/South Hood Canal region (78%) was adjusted upwards to 85 percent to account for the relatively large population that lives in that region.

D3.1.3 Step 3: Allocate Marine Sport Fishing Trips by Mode of Fishing

The number of marine sport fishing trips by region and by residency (Step 2) was then allocated by mode of fishing. (Note that freshwater sport fishing trips were not allocated by mode because information on spending by mode was not available.) Three modes of marine sport fishing were considered: private/rental boat fishing, charter boat fishing, and shore fishing. The percentages used to allocate sport fishing trips by mode were as follows: private/rental boat fishing, 90 percent of all sport fishing trips; charter boat fishing, 5 percent of all sport fishing trips; and shore fishing, 5 percent of all sport fishing trips. These percentages were developed from information reported in an economic report on salmon and sturgeon fishing prepared for the Washington Department of Community Development (ICF Technology Incorporated 1988), and on recent discussions with staff at the Washington Department of Fish and Wildlife (personal communication with Pat Pattillo, Washington Department of Fish and Wildlife, December 20, 2003).

D3.1.4 Step 4: Convert Sport Fishing Trips in Each Region to Spending

The number of sport fishing trips by local residents, non-local residents, and non-residents was then converted to spending within each region. Estimates of average spending per trip were developed based on information from two previous studies (The Research Group 1991 and Gentner et al. 2001) of expenditures associated with sport fishing in marine and fresh waters in the Pacific Northwest. As shown in Table D-19, regional spending by local and non-local residents who sport fish for salmon and steelhead *in marine waters* of the Puget Sound is estimated to average about $52 per angler day for fishing from the shore, $46 per angler day for fishing from private boats, and $152 per angler day for fishing from charter boats (in 2002 dollars). Regional spending by non-residents who sport fish for salmon and steelhead *in marine waters* of the Puget Sound is estimated to average about $105 per angler day for fishing from the shore, $96 per angler day for fishing from private boats, and $208 per angler day for fishing from charter boats (in 2002 dollars). Expenditures associated with sport fishing for salmon and steelhead *in fresh waters* of Puget Sound are estimated at about $66 per angler day by local and non-local residents and about $65 per angler day by non-residents.

It should be noted that these spending estimates do not include spending outside the region of interest. For example, most non-residents who come to the Puget Sound area to sportfish also incur costs outside the Puget Sound area (i.e., at home or en-route to their fishing destination); these costs, however, are not included in the estimates in Table D-19 because they do not affect the Puget Sound regional economy.

D3.1.5 Step 3: Estimate Net Economic Value

Net economic values associated with sport fishing include the value that the Puget Sound salmon fishery generates for consumers and producers. Net economic value to consumers is measured by the dollar amount anglers would be willing to pay over and above what they actually pay to participate in sport fishing. Net economic value to producers (e.g., charter boat operators, guides, and other sport fishing-related businesses) is measured by the net income (or profit) generated by sales to recreational anglers.

For this analysis, only net economic values to sport anglers are evaluated. It is assumed that most changes in the net income to producers (i.e., businesses that directly supply goods and services to anglers) would be offset by a change in net income to producers of other goods and services. For example, if sport anglers have fewer opportunities to sport fish for salmon in Puget Sound, the reduction in net income to sport fishery-related producers associated with the reduction in angler spending would be offset by increases in net income to producers of other goods and services as

anglers shift their spending patterns. Consequently, there likely would be little net change in net income from a regional or state perspective; however, it should be recognized that suppliers of sport fishing-related goods and services would likely experience a net loss in income.

Table D-19. Average angler spending per trip by mode and angler group.

Angler Group/Expenditure Sector	Marine Charter	Marine Private Boat	Marine Shore	Freshwater
Local Residents:				
Transportation	$31.67	$17.57	$22.08	$15.15
Food	$22.06	$10.01	$12.93	$16.24
Lodging	$28.26	$7.56	$11.95	$0.60
Boat Fuel	$0.00	$6.66	$0.00	$12.04
Party/Charter Fees	$52.91	$0.00	$0.00	$2.15
Access/Boat Launching	$0.22	$1.45	$0.18	$0.00
Equipment Rental	$15.81	$0.37	$1.46	$2.46
Bait and Ice	$1.07	$3.00	$3.54	$17.55
Total	$152.00	$46.62	$52.14	$66.20
Non-Local Residents:				
Transportation	$31.67	$17.57	$22.08	$10.43
Food	$22.06	$10.01	$12.93	$19.09
Lodging	$28.26	$7.56	$11.95	$4.56
Boat Fuel	$0.00	$6.66	$0.00	$10.84
Party/Charter Fees	$52.91	$0.00	$0.00	$3.73
Access/Boat Launching	$0.22	$1.45	$0.18	$0.00
Equipment Rental	$15.81	$0.37	$1.46	$2.24
Bait and Ice	$1.07	$3.00	$3.54	$15.31
Total	$152.00	$46.62	$52.14	$66.20
Non-residents of the State:				
Transportation	$99.45	$44.07	$55.57	$5.58
Food	$21.87	$21.60	$17.03	$21.46
Lodging	$25.37	$12.68	$16.10	$8.33
Boat Fuel	$0.00	$10.34	$0.00	$9.43
Party/Charter Fees	$34.39	$0.00	$0.00	$5.18
Access/Boat Launching	$2.12	$1.97	$4.30	$0.00
Equipment Rental	$23.40	$1.45	$6.73	$1.98
Bait and Ice	$1.27	$4.20	$5.61	$12.78
Total	$207.87	$96.31	$105.34	$64.74

As discussed in Section 3.6, the net economic value to sport anglers is estimated based on a study of sport fishing for salmon and steelhead in the Pacific Northwest (Olsen et al. 1991). The average net economic value of sport fishing for salmon and steelhead in Puget Sound waters (including tributaries) was estimated at about $47 per angler day (in 1989 dollars). When adjusted to 2000 dollars using the consumer price index, the value is $65 per angler day. This factor was applied to the estimated number

of angler days provided by the fishery modeling group to estimate the net economic value of sport fishing under the Proposed Action and alternatives.

D3.2 Assumptions Used in the Analysis

The following key assumptions were incorporated into the assessment of sport fishing activity and values.

- Ninety percent (90%) of the sport fishing trips in the marine waters of Puget Sound occur with the use of private/rental boats, 5 percent occurs with the use of charter boats, and 5 percent occurs from the shore.
- Changes (reductions) in net income to sport fishing-related businesses associated with reductions in angler spending were assumed to be offset by increases in net income to producers of other goods and services.

D3.3 Estimated Values

The estimated regional distributions of sport fishing trips and angler spending resulting from the methodology and assumptions described above are presented in Tables D-20 and D-21 for all alternatives under Scenario B (2003 abundance and 2003 Canadian/Alaskan fisheries).

Table D-20. Estimated sport fishing angler trips by angler group, angler mode, and economic region.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Angler Group	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Local Residents				
Marine Charter Boat	4,997	10,224	4,902	20,123
Marine Private Boat	89,945	184,024	88,235	362,204
Marine Shore	4,997	10,224	4,902	20,123
Freshwater (all modes)	267,433	242,080	24,567	534,080
Subtotal	367,372	446,552	122,606	936,530
Non-Local Residents				
Marine Charter Boat	1,027	1,247	11,826	14,100
Marine Private Boat	18,484	22,448	212,866	253,798
Marine Shore	1,027	1,247	11,826	14,100
Freshwater (all modes)	92,859	34,176	29,246	156,281
Subtotal	113,397	59,118	265,764	438,279
Non-residents of the State				
Marine Charter Boat	232	279	1,235	1,746
Marine Private Boat	4,180	5,023	22,232	31,435
Marine Shore	232	279	1,235	1,746
Freshwater (all modes)	11,143	8,544	4,679	24,366
Subtotal	15,787	14,125	29,381	59,293
Total				
Marine Charter Boat	6,256	11,750	17,963	35,969
Marine Private Boat	112,609	211,495	323,333	647,437
Marine Shore	6,256	11,750	17,963	35,969
Freshwater (all modes)	371,435	284,800	58,492	714,727
Total	496,556	519,795	417,751	1,434,102

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-20. Estimated sport fishing angler trips by angler group, angler mode, and economic region, *continued*.

Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Local Residents												
Marine Charter Boat	0	-4,997	-100.0%	0	-10,224	-100.0%	0	-4,902	-100.0%	0	-20,123	-100.0%
Marine Private Boat	0	-89,945	-100.0%	0	-184,024	-100.0%	0	-88,235	-100.0%	0	-362,204	-100.0%
Marine Shore	0	-4,997	-100.0%	0	-10,224	-100.0%	0	-4,902	-100.0%	0	-20,123	-100.0%
reshwater (all modes)	81,460	-185,973	-69.5%	86,084	-155,996	-64.4%	3,808	-20,759	-84.5%	171,352	-362,728	-67.9%
Subtotal	81,460	-285,912	-77.8%	86,084	-360,468	-80.7%	3,808	-118,798	-96.9%	171,352	-765,178	-81.7%
Non-Local Residents												
Marine Charter Boat	0	-1,027	-100.0%	0	-1,247	-100.0%	0	-11,826	-100.0%	0	-14,100	-100.0%
Marine Private Boat	0	-18,484	-100.0%	0	-22,448	-100.0%	0	-212,866	-100.0%	0	-253,798	-100.0%
Marine Shore	0	-1,027	-100.0%	0	-1,247	-100.0%	0	-11,826	-100.0%	0	-14,100	-100.0%
reshwater (all modes)	28,285	-64,574	-69.5%	12,153	-22,023	-64.4%	4,534	-24,712	-84.5%	44,972	-111,309	-71.2%
Subtotal	28,285	-85,112	-75.1%	12,153	-46,965	-79.4%	4,534	-261,230	-98.3%	44,972	-393,307	-89.7%
Non-residents of the State												
Marine Charter Boat	0	-232	-100.0%	0	-279	-100.0%	0	-1,235	-100.0%	0	-1,746	-100.0%
Marine Private Boat	0	-4,180	-100.0%	0	-5,023	-100.0%	0	-22,232	-100.0%	0	-31,435	-100.0%
Marine Shore	0	-232	-100.0%	0	-279	-100.0%	0	-1,235	-100.0%	0	-1,746	-100.0%
reshwater (all modes)	3,394	-7,749	-69.5%	3,038	-5,506	-64.4%	725	-3,954	-84.5%	7,157	-17,209	-70.6%
Subtotal	3,394	-12,393	-78.5%	3,038	-11,087	-78.5%	725	-28,656	-97.5%	7,157	-52,136	-87.9%
Total												
Marine Charter Boat	0	-6,256	-100.0%	0	-11,750	-100.0%	0	-17,963	-100.0%	0	-35,969	-100.0%
Marine Private Boat	0	-112,609	-100.0%	0	-211,495	-100.0%	0	-323,333	-100.0%	0	-647,437	-100.0%
Marine Shore	0	-6,256	-100.0%	0	-11,750	-100.0%	0	-17,963	-100.0%	0	-35,969	-100.0%
reshwater (all modes)	113,139	-258,296	-69.5%	101,275	-183,525	-64.4%	9,067	-49,425	-84.5%	223,481	-491,246	-68.7%
Total	113,139	-383,417	-77.2%	101,275	-418,520	-80.5%	9,067	-408,684	-97.8%	223,481	-1,210,621	-84.4%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-20. Estimated sport fishing angler trips by angler group, angler mode, and economic region, *continued*.

Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Marine Charter Boat	0	-4,997	-100.0%	0	-10,224	-100.0%	0	-4,902	-100.0%	0	-20,123	-100.0%
Marine Private Boat	0	-89,945	-100.0%	0	-184,024	-100.0%	0	-88,235	-100.0%	0	-362,204	-100.0%
Marine Shore	0	-4,997	-100.0%	0	-10,224	-100.0%	0	-4,902	-100.0%	0	-20,123	-100.0%
reshwater (all modes)	46,152	-221,281	-82.7%	86,086	-155,994	-64.4%	1,520	-23,047	-93.8%	133,758	-400,322	-75.0%
Subtotal	46,152	-321,220	-87.4%	86,086	-360,466	-80.7%	1,520	-121,086	-98.8%	133,758	-802,772	-85.7%
Non-Local Residents												
Marine Charter Boat	0	-1,027	-100.0%	0	-1,247	-100.0%	0	-11,826	-100.0%	0	-14,100	-100.0%
Marine Private Boat	0	-18,484	-100.0%	0	-22,448	-100.0%	0	-212,866	-100.0%	0	-253,798	-100.0%
Marine Shore	0	-1,027	-100.0%	0	-1,247	-100.0%	0	-11,826	-100.0%	0	-14,100	-100.0%
reshwater (all modes)	16,025	-76,834	-82.7%	12,153	-22,023	-64.4%	1,809	-27,437	-93.8%	29,987	-126,294	-80.8%
Subtotal	16,025	-97,372	-85.9%	12,153	-46,965	-79.4%	1,809	-263,955	-99.3%	29,987	-408,292	-93.2%
Non-residents of the State												
Marine Charter Boat	0	-232	-100.0%	0	-279	-100.0%	0	-1,235	-100.0%	0	-1,746	-100.0%
Marine Private Boat	0	-4,180	-100.0%	0	-5,023	-100.0%	0	-22,232	-100.0%	0	-31,435	-100.0%
Marine Shore	0	-232	-100.0%	0	-279	-100.0%	0	-1,235	-100.0%	0	-1,746	-100.0%
reshwater (all modes)	1,923	-9,220	-82.7%	3,038	-5,506	-64.4%	289	-4,390	-93.8%	5,250	-19,116	-78.5%
Subtotal	1,923	-13,864	-87.8%	3,038	-11,087	-78.5%	289	-29,092	-99.0%	5,250	-54,043	-91.1%
Total												
Marine Charter Boat	0	-6,256	-100.0%	0	-11,750	-100.0%	0	-17,963	-100.0%	0	-35,969	-100.0%
Marine Private Boat	0	-112,609	-100.0%	0	-211,495	-100.0%	0	-323,333	-100.0%	0	-647,437	-100.0%
Marine Shore	0	-6,256	-100.0%	0	-11,750	-100.0%	0	-17,963	-100.0%	0	-35,969	-100.0%
reshwater (all modes)	64,100	-307,335	-82.7%	101,277	-183,523	-64.4%	3,618	-54,874	-93.8%	168,995	-545,732	-76.4%
Total	64,100	-432,456	-87.1%	101,277	-418,518	-80.5%	3,618	-414,133	-99.1%	168,995	-1,265,107	-88.2%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-20. Estimated sport fishing angler trips by angler group, angler mode, and economic region, *continued*.

Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Marine Charter Boat	0	-4,997	-100.0%	0	-10,224	-100.0%	0	-4,902	-100.0%	0	-20,123	-100.0%
Marine Private Boat	0	-89,945	-100.0%	0	-184,024	-100.0%	0	-88,235	-100.0%	0	-362,204	-100.0%
Marine Shore	0	-4,997	-100.0%	0	-10,224	-100.0%	0	-4,902	-100.0%	0	-20,123	-100.0%
eshwater (all modes)	1,476	-265,957	-99.4%	1,801	-240,279	-99.3%	59	-24,508	-99.8%	3,336	-530,744	-99.4%
Subtotal	1,476	-365,896	-99.6%	1,801	-444,751	-99.6%	59	-122,547	-100.0%	3,336	-933,194	-99.6%
Non-Local Residents												
Marine Charter Boat	0	-1,027	-100.0%	0	-1,247	-100.0%	0	-11,826	-100.0%	0	-14,100	-100.0%
Marine Private Boat	0	-18,484	-100.0%	0	-22,448	-100.0%	0	-212,866	-100.0%	0	-253,798	-100.0%
Marine Shore	0	-1,027	-100.0%	0	-1,247	-100.0%	0	-11,826	-100.0%	0	-14,100	-100.0%
eshwater (all modes)	513	-92,346	-99.4%	254	-33,922	-99.3%	70	-29,176	-99.8%	837	-155,444	-99.5%
Subtotal	513	-112,884	-99.5%	254	-58,864	-99.6%	70	-265,694	-100.0%	837	-437,442	-99.8%
Non-residents of the State												
Marine Charter Boat	0	-232	-100.0%	0	-279	-100.0%	0	-1,235	-100.0%	0	-1,746	-100.0%
Marine Private Boat	0	-4,180	-100.0%	0	-5,023	-100.0%	0	-22,232	-100.0%	0	-31,435	-100.0%
Marine Shore	0	-232	-100.0%	0	-279	-100.0%	0	-1,235	-100.0%	0	-1,746	-100.0%
eshwater (all modes)	62	-11,081	-99.4%	64	-8,480	-99.3%	11	-4,668	-99.8%	137	-24,229	-99.4%
Subtotal	62	-15,725	-99.6%	64	-14,061	-99.5%	11	-29,370	-100.0%	137	-59,156	-99.8%
Total												
Marine Charter Boat	0	-6,256	-100.0%	0	-11,750	-100.0%	0	-17,963	-100.0%	0	-35,969	-100.0%
Marine Private Boat	0	-112,609	-100.0%	0	-211,495	-100.0%	0	-323,333	-100.0%	0	-647,437	-100.0%
Marine Shore	0	-6,256	-100.0%	0	-11,750	-100.0%	0	-17,963	-100.0%	0	-35,969	-100.0%
eshwater (all modes)	2,051	-369,384	-99.4%	2,119	-282,681	-99.3%	140	-58,352	-99.8%	4,310	-710,417	-99.4%
Total	2,051	-494,505	-99.6%	2,119	-517,676	-99.6%	140	-417,611	-100.0%	4,310	-1,429,792	-99.7%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-21. Estimated sport fishing expenditures (in 2002 dollars) in the economic regions with implementation of the alternatives. Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Average Angler Spending Per Trip within the Region				Average Spending Per Trip by Non-Resident Anglers Within the State but Outside of the Region				Alternative 1 - Proposed Action/Status Quo			
Spending Sectors	Marine Charter	Marine Private Boat	Marine Shore	Freshwater	Marine Charter	Marine Private Boat	Marine Shore	Freshwater	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Local Residents												
Transportation	$31.67	$17.57	$22.08	$15.15	NA	NA	NA	NA	$5,852,511	$7,352,101	$2,138,853	$15,343,466
Food	$22.06	$10.01	$12.93	$16.24	NA	NA	NA	NA	$5,449,288	$6,194,586	$1,484,114	$13,127,988
Lodging	$28.26	$7.56	$11.95	$0.60	NA	NA	NA	NA	$900,158	$1,658,646	$740,376	$3,299,180
Boat Fuel	$0.00	$6.66	$0.00	$12.04	NA	NA	NA	NA	$4,083,318	$4,681,195	$1,142,797	$9,907,310
Party/Charter Fees	$52.91	$0.00	$0.00	$2.15	NA	NA	NA	NA	$576,080	$522,721	$53,897	$1,152,699
ccess/Boat Launching	$0.22	$1.45	$0.18	$0.00	NA	NA	NA	NA	$210,322	$430,317	$206,324	$846,963
Equipment Rental	$15.81	$0.37	$1.46	$2.46	NA	NA	NA	NA	$703,807	$689,472	$105,484	$1,498,763
Bait and Ice	$1.07	$3.00	$3.54	$17.55	NA	NA	NA	NA	$5,740,518	$6,390,817	$1,458,313	$13,589,647
Total	$152.00	$46.62	$52.14	$66.19	NA	NA	NA	NA	$23,516,003	$27,919,855	$7,330,157	$58,766,015
Non-Local Residents												
Transportation	$31.67	$17.57	$22.08	$10.43	NA	NA	NA	NA	$1,348,485	$817,893	$4,680,739	$6,847,117
Food	$22.06	$10.01	$12.93	$19.09	NA	NA	NA	NA	$1,993,638	$920,757	$3,102,887	$6,017,281
Lodging	$28.26	$7.56	$11.95	$4.56	NA	NA	NA	NA	$604,472	$375,691	$2,218,152	$3,198,315
Boat Fuel	$0.00	$6.66	$0.00	$10.84	NA	NA	NA	NA	$1,129,695	$519,972	$1,734,714	$3,384,381
Party/Charter Fees	$52.91	$0.00	$0.00	$3.73	NA	NA	NA	NA	$400,703	$193,455	$734,801	$1,328,959
ccess/Boat Launching	$0.22	$1.45	$0.18	$0.00	NA	NA	NA	NA	$27,213	$33,048	$313,386	$373,647
Equipment Rental	$15.81	$0.37	$1.46	$2.24	NA	NA	NA	NA	$232,580	$106,396	$348,506	$687,482
Bait and Ice	$1.07	$3.00	$3.54	$15.31	NA	NA	NA	NA	$1,481,858	$596,327	$1,140,872	$3,219,057
Total	$152.00	$46.62	$52.14	$66.20	NA	NA	NA	NA	$7,218,642	$3,563,540	$14,274,058	$25,056,239
Non-residents of the State												
Transportation	$99.45	$44.07	$55.57	$5.58	$11.05	$4.90	$6.17	$2.44	$282,355	$312,290	$1,197,323	$2,035,518
Food	$21.87	$21.60	$17.03	$21.46	$2.43	$2.40	$1.89	$3.08	$338,442	$302,704	$628,664	$1,427,844
Lodging	$25.37	$12.68	$16.10	$8.33	$2.82	$1.41	$1.79	$0.50	$155,445	$146,433	$372,093	$738,527
Boat Fuel	$0.00	$10.34	$0.00	$9.43	$0.00	$1.15	$0.00	$1.39	$148,300	$132,508	$274,002	$624,828
Party/Charter Fees	$34.39	$0.00	$0.00	$5.18	$3.82	$0.00	$0.00	$0.00	$65,699	$53,853	$66,709	$192,931
ccess/Boat Launching	$2.12	$1.97	$4.30	$0.00	$0.24	$0.22	$0.48	$0.00	$9,724	$11,686	$51,726	$81,309
Equipment Rental	$23.40	$1.45	$6.73	$1.98	$2.60	$0.16	$0.75	$0.00	$35,114	$32,607	$78,711	$157,311
Bait and Ice	$1.27	$4.20	$5.61	$12.78	$0.14	$0.47	$0.62	$0.00	$161,560	$132,208	$161,669	$471,538
Total	$207.87	$96.31	$105.34	$64.74	$23.10	$10.71	$11.70	$7.41	$1,196,638	$1,124,289	$2,830,897	$5,729,806
Net Impact**												
Transportation	NA	NA	NA	NA	NA	NA	NA	NA	$7,483,351	$8,482,284	$8,016,915	$24,226,101
Food	NA	NA	NA	NA	NA	NA	NA	NA	$7,781,367	$7,418,047	$5,215,664	$20,573,113
Lodging	NA	NA	NA	NA	NA	NA	NA	NA	$1,660,075	$2,180,771	$3,330,621	$7,236,022
Boat Fuel	NA	NA	NA	NA	NA	NA	NA	NA	$5,361,313	$5,333,674	$3,151,513	$13,916,519
Party/Charter Fees	NA	NA	NA	NA	NA	NA	NA	NA	$1,042,482	$770,029	$855,408	$2,674,589
ccess/Boat Launching	NA	NA	NA	NA	NA	NA	NA	NA	$247,259	$475,051	$571,436	$1,301,919
Equipment Rental	NA	NA	NA	NA	NA	NA	NA	NA	$971,501	$828,475	$532,702	$2,343,556
Bait and Ice	NA	NA	NA	NA	NA	NA	NA	NA	$7,383,935	$7,119,353	$2,760,854	$17,280,243
Total	NA	NA	NA	NA	NA	NA	NA	NA	$31,931,283	$32,607,684	$24,435,112	$89,552,061

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-21. Estimated sport fishing expenditures (in 2002 dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Spending Sectors	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Local Residents												
Transportation	$1,234,119	-$4,618,392	-0.789130006	$1,304,173	-$6,047,928	-0.822612258	$57,691	-$2,081,162	-0.973027042	$2,595,983	-$12,747,483	-83.1%
Food	$1,322,910	-$4,126,377	-0.757232422	$1,398,004	-$4,796,582	-0.774318387	$61,842	-$1,422,272	-0.958330743	$2,782,756	-$10,345,231	-78.8%
Lodging	$48,876	-$851,282	-0.945702875	$51,650	-$1,606,996	-0.968859906	$2,285	-$738,091	-0.996913999	$102,811	-$3,196,369	-96.9%
Boat Fuel	$980,778	-$3,102,540	-0.759808487	$1,036,451	-$3,644,744	-0.778592563	$45,848	-$1,096,948	-0.959880595	$2,063,078	-$7,844,232	-79.2%
Party/Charter Fees	$175,139	-$400,941	-0.695981614	$185,081	-$337,641	-0.645928706	$8,187	-$45,710	-0.848096822	$368,407	-$784,292	-68.0%
cess/Boat Launching	$0	-$210,322	-1	$0	-$430,317	-1	$0	-$206,324	-1	$0	-$846,963	-100.0%
Equipment Rental	$200,392	-$503,416	-0.715274881	$211,767	-$477,706	-0.692856973	$9,368	-$96,116	-0.911193213	$421,526	-$1,077,238	-71.9%
Bait and Ice	$1,429,623	-$4,310,895	-0.750959214	$1,510,774	-$4,880,043	-0.763602336	$66,830	-$1,391,483	-0.954172799	$3,007,228	-$10,582,420	-77.9%
Total	$5,391,837	-$18,124,165	-0.770716246	$5,697,900	-$22,221,955	-0.795919431	$252,052	-$7,078,106	-0.965614446	$11,341,789	-$47,424,227	-80.7%
Non-Local Residents												
Transportation	$295,013	-$1,053,472	-0.781226592	$126,756	-$691,138	-0.845021604	$47,290	-$4,633,449	-0.989896975	$469,058	-$6,378,059	-93.1%
Food	$539,961	-$1,453,677	-0.729158111	$232,001	-$688,756	-0.748032534	$86,554	-$3,016,332	-0.972105309	$858,515	-$5,158,766	-85.7%
Lodging	$128,980	-$475,492	-0.786624272	$55,418	-$320,274	-0.852491451	$20,675	-$2,197,477	-0.990679161	$205,072	-$2,993,243	-93.6%
Boat Fuel	$306,609	-$823,086	-0.728590991	$131,739	-$388,233	-0.746642816	$49,149	-$1,685,566	-0.971667633	$487,496	-$2,896,884	-85.6%
Party/Charter Fees	$105,503	-$295,200	-0.736704879	$45,331	-$148,125	-0.765678678	$16,912	-$717,889	-0.976984497	$167,746	-$1,161,214	-87.4%
cess/Boat Launching	$0	-$27,213	-1	$0	-$33,048	-1	$0	-$313,386	-1	$0	-$373,647	-100.0%
Equipment Rental	$63,358	-$169,221	-0.727583937	$27,223	-$79,173	-0.744137004	$10,156	-$338,350	-0.970858045	$100,737	-$586,744	-85.3%
Bait and Ice	$433,043	-$1,048,814	-0.707769962	$186,062	-$410,265	-0.687986024	$69,416	-$1,071,457	-0.939155722	$688,521	-$2,530,536	-78.6%
Total	$1,872,467	-$5,346,175	-0.740606739	$804,529	-$2,759,011	-0.774233289	$300,151	-$13,973,907	-0.978972286	$2,977,146	-$22,079,093	-88.1%
Non-residents of the State												
Transportation	$18,939	-$263,417	-0.932926607	$16,952	-$295,338	-0.945716943	$4,046	-$1,193,277	-0.996621212	$57,399	-$1,978,119	-97.2%
Food	$72,835	-$265,606	-0.784792282	$65,195	-$237,509	-0.784623098	$15,559	-$613,106	-0.975251487	$175,633	-$1,252,211	-87.7%
Lodging	$28,272	-$127,173	-0.818121604	$25,307	-$121,127	-0.827180418	$6,039	-$366,054	-0.983769527	$63,196	-$675,330	-91.4%
Boat Fuel	$32,005	-$116,294	-0.784184175	$28,648	-$103,859	-0.783798743	$6,837	-$267,165	-0.975048526	$77,439	-$547,390	-87.6%
Party/Charter Fees	$17,581	-$48,118	-0.732402911	$15,737	-$38,116	-0.707780088	$3,756	-$62,953	-0.943703139	$37,073	-$155,857	-80.8%
cess/Boat Launching	$0	-$9,724	-1	$0	-$11,686	-1	$0	-$51,726	-1	$0	-$81,309	-100.0%
Equipment Rental	$6,720	-$28,394	-0.808621559	$6,015	-$26,592	-0.815521576	$1,436	-$77,276	-0.981762482	$14,171	-$143,140	-91.0%
Bait and Ice	$43,375	-$118,184	-0.731521413	$38,826	-$93,383	-0.706330095	$9,266	-$152,403	-0.942688392	$91,466	-$380,072	-80.6%
Total	$219,728	-$976,911	-0.816379308	$196,680	-$927,609	-0.82506271	$46,937	-$2,783,960	-0.983419918	$516,378	-$5,213,429	-91.0%
Net Impact**												
Transportation	$313,951	-$1,316,889	-0.175975794	$143,708	-$986,475	-0.116298295	$51,335	-$5,826,727	-0.726804087	$57,399	-$1,978,119	-8.2%
Food	$612,796	-$1,719,284	-0.220948776	$297,196	-$926,265	-0.124866389	$102,113	-$3,629,438	-0.695872615	$175,633	-$1,252,211	-6.1%
Lodging	$157,252	-$602,665	-0.363034761	$80,724	-$441,400	-0.202405669	$26,714	-$2,563,531	-0.769685607	$63,196	-$675,330	-9.3%
Boat Fuel	$338,615	-$939,380	-0.175214518	$160,387	-$492,092	-0.092261429	$55,985	-$1,952,731	-0.619616977	$77,439	-$547,390	-3.9%
Party/Charter Fees	$123,084	-$343,318	-0.329327356	$61,068	-$186,240	-0.241861524	$20,667	-$780,843	-0.912831251	$37,073	-$155,857	-5.8%
cess/Boat Launching	$0	-$36,937	-0.149384459	$0	-$44,735	-0.094168516	$0	-$365,112	-0.638937895	$0	-$81,309	-6.2%
Equipment Rental	$70,079	-$197,615	-0.203412344	$33,238	-$105,764	-0.127661658	$11,592	-$415,626	-0.780223164	$14,171	-$143,140	-6.1%
Bait and Ice	$476,419	-$1,166,999	-0.158045648	$224,888	-$503,648	-0.070743455	$78,681	-$1,223,860	-0.443290358	$91,466	-$380,072	-2.2%
Total	$2,092,195	-$6,323,085	-0.198021654	$1,001,209	-$3,686,620	-0.113059857	$347,087	-$16,757,867	-0.685810946	$516,378	-$5,213,429	-5.8%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.

For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.

The baseline includes local, non-local, and non-resident spending effects.

Table D-21. Estimated sport fishing expenditures (in 2002 dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Spending Sectors	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Transportation	$699,203	-$5,153,308	-0.880529438	$1,304,203	-$6,047,898	-0.822608137	$23,028	-$2,115,825	-0.989233483	$2,026,434	-$13,317,032	-86.8%
Food	$749,508	-$4,699,779	-0.862457534	$1,398,037	-$4,796,549	-0.774313144	$24,685	-$1,459,429	-0.983367313	$2,172,230	-$10,955,758	-83.5%
Lodging	$27,691	-$872,467	-0.969237406	$51,652	-$1,606,995	-0.968859182	$912	-$739,464	-0.998768193	$80,255	-$3,218,925	-97.6%
Boat Fuel	$555,670	-$3,527,648	-0.86391703	$1,036,475	-$3,644,719	-0.778587419	$18,301	-$1,124,496	-0.983985952	$1,610,446	-$8,296,863	-83.7%
Party/Charter Fees	$99,227	-$476,853	-0.82775526	$185,085	-$337,636	-0.64592048	$3,268	-$50,629	-0.939366379	$287,580	-$865,119	-75.1%
cess/Boat Launching	$0	-$210,322	-1	$0	-$430,317	-1	$0	-$206,324	-1	$0	-$846,963	-100.0%
Equipment Rental	$113,534	-$590,273	-0.838686058	$211,772	-$477,701	-0.692849837	$3,739	-$101,745	-0.964551913	$329,045	-$1,169,719	-78.0%
Bait and Ice	$809,968	-$4,930,550	-0.858903384	$1,510,809	-$4,880,008	-0.763596844	$26,676	-$1,431,637	-0.98170763	$2,347,453	-$11,242,195	-82.7%
Total	$3,054,801	-$20,461,202	-0.870096933	$5,698,032	-$22,221,823	-0.79591469	$100,609	-$7,229,549	-0.986274674	$8,853,442	-$49,912,573	-84.9%
Non-Local Residents												
Transportation	$167,141	-$1,181,344	-0.876052895	$126,756	-$691,138	-0.845021604	$18,868	-$4,661,871	-0.99596904	$312,764	-$6,534,352	-95.4%
Food	$305,917	-$1,687,721	-0.846553252	$232,001	-$688,756	-0.748032534	$34,534	-$3,068,353	-0.988870425	$572,452	-$5,444,829	-90.5%
Lodging	$73,074	-$531,398	-0.879110976	$55,418	-$320,274	-0.852491451	$8,249	-$2,209,903	-0.996281121	$136,741	-$3,061,575	-95.7%
Boat Fuel	$173,711	-$955,984	-0.846231948	$131,739	-$388,233	-0.746642816	$19,610	-$1,715,105	-0.988695798	$325,059	-$3,059,322	-90.4%
Party/Charter Fees	$59,773	-$340,929	-0.850828909	$45,331	-$148,125	-0.765678678	$6,748	-$728,054	-0.990817149	$111,852	-$1,217,108	-91.6%
cess/Boat Launching	$0	-$27,213	-1	$0	-$33,048	-1	$0	-$313,386	-1	$0	-$373,647	-100.0%
Equipment Rental	$35,896	-$196,684	-0.845661396	$27,223	-$79,173	-0.744137004	$4,052	-$344,454	-0.988372784	$67,171	-$620,311	-90.2%
Bait and Ice	$245,343	-$1,236,515	-0.834435695	$186,062	-$410,265	-0.687986024	$27,696	-$1,113,176	-0.975724019	$459,101	-$2,759,956	-85.7%
Total	$1,060,855	-$6,157,787	-0.853039526	$804,529	-$2,759,011	-0.774233289	$119,756	-$14,154,302	-0.991610248	$1,985,139	-$23,071,100	-92.1%
Non-residents of the State												
Transportation	$10,730	-$271,625	-0.961997014	$16,952	-$295,338	-0.945716943	$1,613	-$1,195,710	-0.998653145	$42,105	-$1,993,413	-97.9%
Food	$41,268	-$297,174	-0.878065869	$65,195	-$237,509	-0.784623098	$6,202	-$622,462	-0.990134731	$128,835	-$1,299,009	-91.0%
Lodging	$16,019	-$139,426	-0.896949866	$25,307	-$121,127	-0.827180418	$2,407	-$369,686	-0.993530198	$46,358	-$692,169	-93.7%
Boat Fuel	$18,134	-$130,166	-0.877721322	$28,648	-$103,859	-0.783798743	$2,725	-$271,277	-0.990053826	$56,805	-$568,023	-90.9%
Party/Charter Fees	$9,961	-$55,738	-0.848382675	$15,737	-$38,116	-0.707780088	$1,497	-$65,212	-0.977558906	$27,195	-$165,736	-85.9%
cess/Boat Launching	$0	-$9,724	-1	$0	-$11,686	-1	$0	-$51,726	-1	$0	-$81,309	-100.0%
Equipment Rental	$3,808	-$31,307	-0.891567253	$6,015	-$26,592	-0.815521576	$572	-$78,139	-0.992730148	$10,395	-$146,916	-93.4%
Bait and Ice	$24,576	-$136,984	-0.847883228	$38,826	-$93,383	-0.706330095	$3,693	-$157,975	-0.977154407	$67,095	-$404,443	-85.8%
Total	$124,495	-$1,072,143	-0.895962702	$196,680	-$927,609	-0.82506271	$18,710	-$2,812,187	-0.993390836	$378,788	-$5,351,019	-93.4%
Net Impact**												
Transportation	$177,871	-$1,452,969	-0.194160159	$143,708	-$986,475	-0.116298295	$20,480	-$5,857,581	-0.730652778	$42,105	-$1,993,413	-8.2%
Food	$347,185	-$1,984,895	-0.255083016	$297,196	-$926,265	-0.124866389	$40,736	-$3,690,815	-0.707640399	$128,835	-$1,299,009	-6.3%
Lodging	$89,093	-$670,824	-0.404092574	$80,724	-$441,400	-0.202405669	$10,656	-$2,579,589	-0.774506894	$46,358	-$692,169	-9.6%
Boat Fuel	$191,845	-$1,086,150	-0.202590262	$160,387	-$492,092	-0.092261429	$22,335	-$1,986,381	-0.630294541	$56,805	-$568,023	-4.1%
Party/Charter Fees	$69,734	-$396,667	-0.380502889	$61,068	-$186,240	-0.241861524	$8,245	-$793,266	-0.927353837	$27,195	-$165,736	-6.2%
cess/Boat Launching	$0	-$36,937	-0.149384459	$0	-$44,735	-0.094168516	$0	-$365,112	-0.638937895	$0	-$81,309	-6.2%
Equipment Rental	$39,704	-$227,990	-0.234678373	$33,238	-$105,764	-0.127661658	$4,624	-$422,593	-0.793302304	$10,395	-$146,916	-6.3%
Bait and Ice	$269,919	-$1,373,499	-0.186011764	$224,888	-$503,648	-0.070743455	$31,389	-$1,271,152	-0.460419779	$67,095	-$404,443	-2.3%
Total	$1,185,350	-$7,229,930	-0.226421533	$1,001,209	-$3,686,620	-0.113059857	$138,466	-$16,966,489	-0.694348728	$378,788	-$5,351,019	-6.0%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.

For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.

The baseline includes local, non-local, and non-resident spending effects.

Table D-21. Estimated sport fishing expenditures (in 2002 dollars) in the economic regions with implementation of the alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Spending Sectors	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Transportation	$22,361	-$5,830,150	-0.996179179	$27,285	-$7,324,816	-0.996288796	$894	-$2,137,959	-0.999582089	$50,540	-$15,292,925	-99.7%
Food	$23,970	-$5,425,318	-0.995601216	$29,248	-$6,165,338	-0.995278419	$958	-$1,483,156	-0.999354389	$54,177	-$13,073,811	-99.6%
Lodging	$886	-$899,273	-0.999016173	$1,081	-$1,657,566	-0.999348505	$35	-$740,340	-0.999952186	$2,002	-$3,297,178	-99.9%
Boat Fuel	$17,771	-$4,065,547	-0.995647893	$21,684	-$4,659,511	-0.995367841	$710	-$1,142,086	-0.999378402	$40,165	-$9,867,144	-99.6%
Party/Charter Fees	$3,173	-$572,907	-0.994491393	$3,872	-$518,849	-0.992592324	$127	-$53,771	-0.997646458	$7,172	-$1,145,527	-99.4%
cess/Boat Launching	$0	-$210,322	-1	$0	-$430,317	-1	$0	-$206,324	-1	$0	-$846,963	-100.0%
Equipment Rental	$3,631	-$700,176	-0.994840974	$4,430	-$685,042	-0.99357413	$145	-$105,339	-0.998624055	$8,207	-$1,490,557	-99.5%
Bait and Ice	$25,904	-$5,714,614	-0.99548755	$31,608	-$6,359,209	-0.995054224	$1,035	-$1,457,277	-0.999289967	$58,547	-$13,531,101	-99.6%
Total	$97,696	-$23,418,306	-0.995845534	$119,208	-$27,800,647	-0.995730344	$3,905	-$7,326,252	-0.999467241	$220,810	-$58,545,206	-99.6%
Non-Local Residents												
Transportation	$5,351	-$1,343,134	-0.996032146	$2,649	-$815,244	-0.996760922	$730	-$4,680,009	-0.99984402	$8,730	-$6,838,387	-99.9%
Food	$9,793	-$1,983,845	-0.995087789	$4,849	-$915,908	-0.994733832	$1,336	-$3,101,550	-0.999569336	$15,978	-$6,001,303	-99.7%
Lodging	$2,339	-$602,132	-0.996130042	$1,158	-$374,533	-0.996917043	$319	-$2,217,833	-0.999856096	$3,817	-$3,194,499	-99.9%
Boat Fuel	$5,561	-$1,124,134	-0.995077503	$2,753	-$517,218	-0.994704787	$759	-$1,733,955	-0.999562579	$9,073	-$3,375,308	-99.7%
Party/Charter Fees	$1,913	-$398,789	-0.995224663	$947	-$192,508	-0.99510264	$261	-$734,540	-0.999644666	$3,122	-$1,325,837	-99.8%
cess/Boat Launching	$0	-$27,213	-1	$0	-$33,048	-1	$0	-$313,386	-1	$0	-$373,647	-100.0%
Equipment Rental	$1,149	-$231,430	-0.995059238	$569	-$105,827	-0.994652415	$157	-$348,350	-0.99955008	$1,875	-$685,607	-99.7%
Bait and Ice	$7,854	-$1,474,004	-0.994699876	$3,889	-$592,438	-0.993478849	$1,072	-$1,139,800	-0.999060631	$12,814	-$3,206,243	-99.6%
Total	$33,961	-$7,184,681	-0.995295431	$16,815	-$3,546,725	-0.995281433	$4,634	-$14,269,424	-0.999675355	$55,409	-$25,000,830	-99.8%
Non-residents of the State												
Transportation	$346	-$282,009	-0.998774735	$357	-$311,933	-0.998856446	$61	-$1,197,261	-0.999948736	$1,099	-$2,034,420	-99.9%
Food	$1,331	-$337,111	-0.996068686	$1,373	-$301,331	-0.995462764	$236	-$628,428	-0.999624505	$3,362	-$1,424,482	-99.8%
Lodging	$516	-$154,928	-0.996677531	$533	-$145,900	-0.996359298	$92	-$372,002	-0.999753745	$1,210	-$737,317	-99.8%
Boat Fuel	$585	-$147,715	-0.996057578	$604	-$131,904	-0.995445398	$104	-$273,898	-0.999621426	$1,482	-$623,346	-99.8%
Party/Charter Fees	$321	-$65,378	-0.995111662	$332	-$53,521	-0.993843952	$57	-$66,652	-0.999145841	$710	-$192,221	-99.6%
cess/Boat Launching	$0	-$9,724	-1	$0	-$11,686	-1	$0	-$51,726	-1	$0	-$81,309	-100.0%
Equipment Rental	$123	-$34,992	-0.996503988	$127	-$32,480	-0.996113687	$22	-$78,690	-0.999723293	$271	-$157,040	-99.8%
Bait and Ice	$792	-$160,767	-0.995095559	$818	-$131,391	-0.993813406	$141	-$161,528	-0.999130445	$1,751	-$469,788	-99.6%
Total	$4,014	-$1,192,624	-0.996645703	$4,143	-$1,120,146	-0.996314685	$712	-$2,830,185	-0.99974844	$9,885	-$5,719,922	-99.8%
Net Impact**												
Transportation	$5,697	-$1,625,143	-0.217167838	$3,006	-$1,127,177	-0.132885984	$791	-$5,877,270	-0.733108711	$1,099	-$2,034,420	-8.4%
Food	$11,124	-$2,320,956	-0.298270946	$6,222	-$1,217,239	-0.164091531	$1,572	-$3,729,978	-0.715149201	$3,362	-$1,424,482	-6.9%
Lodging	$2,856	-$757,061	-0.456040151	$1,691	-$520,433	-0.23864646	$411	-$2,589,835	-0.777583071	$1,210	-$737,317	-10.2%
Boat Fuel	$6,146	-$1,271,849	-0.237227171	$3,357	-$649,122	-0.121702669	$863	-$2,007,854	-0.637107873	$1,482	-$623,346	-4.5%
Party/Charter Fees	$2,235	-$464,167	-0.44525195	$1,279	-$246,029	-0.319506093	$318	-$801,192	-0.936620191	$710	-$192,221	-7.2%
cess/Boat Launching	$0	-$36,937	-0.149384459	$0	-$44,735	-0.094168516	$0	-$365,112	-0.638937895	$0	-$81,309	-6.2%
Equipment Rental	$1,272	-$266,422	-0.274237423	$696	-$138,307	-0.166941402	$179	-$427,039	-0.801648063	$271	-$157,040	-6.7%
Bait and Ice	$8,646	-$1,634,771	-0.221395648	$4,707	-$723,829	-0.101670622	$1,212	-$1,301,329	-0.471350068	$1,751	-$469,788	-2.7%
Total	$37,974	-$8,377,306	-0.26235418	$20,958	-$4,666,871	-0.143121806	$5,346	-$17,099,608	-0.699796606	$9,885	-$5,719,922	-6.4%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

D4 Effects on the Local and Regional Economy

D4.1 Methods

Changes in revenues received by commercial fishermen and processors and expenditures made by sport anglers would result in changes in economic activity statewide and within each region. For purposes of the economic analysis, these changes were characterized by total (i.e., direct, indirect, and induced) changes in employment and personal income. The following steps were employed to estimate changes in regional economic activity caused by changes in fishing activity under the alternatives.

D4.1.1 Step 1: Estimate Total Economic Effects Resulting from Changes in Commercial Fishing Activity

Total changes in employment (full-time equivalent) and personal income (wages, profits, and other income) resulting from changes in commercial salmon fishing landings were estimated using regional and statewide multipliers developed by The Research Group (Attachment B) for this project.

As described in more detail in Attachment B, the 2000 IMPLAN database was used by The Research Group to construct a Fisheries Economic Assessment Model (FEAM) for the four geographic areas used in the assessment (i.e., three economic regions and statewide). The FEAM model uses basic input-output relationships from the IMPLAN model (Minnesota IMPLAN Group 2002). Custom commercial fishing industry sectors, consisting of aggregated and disaggregated IMPLAN industrial sectors, were developed for the model. To assess economic effects using the FEAM model, the input/output relationships for the custom sectors are applied to spending patterns from the harvesting and processing components of the fishing industry to generate estimates of direct, indirect, and induced impacts on local economies and the state of Washington. Inputs to the FEAM model include landing weights for salmon species, prices, product forms, and budgets for fishing industry businesses. Coefficients and multiplier factors based on landed weight were derived from FEAM outputs.

The FEAM factors were used to estimate the regional economic impacts of the Proposed Action and alternatives to the Proposed Action generated by commercial harvests. Average per unit impact factors were used to estimate the total economic contributions of baseline (i.e., the Proposed Action) harvest conditions; marginal per unit impact factors were used to calculate impacts resulting from changes in harvests under the alternatives to the Proposed Action.

Tables D-22 and D-23 show the multipliers generated by the FEAM model for use in the assessment of Puget Sound harvest management alternatives. These multipliers were applied to the commercial

fishing landings estimated for each alternative to arrive at estimates of total regional and statewide employment and personal income generated by commercial salmon harvests.

Table D-22. Multipliers (full-time-equivalent jobs per million pounds of landings) used to estimate total regional employment effects resulting from changes in commercial fishing landings.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal		Statewide	
Species	Average	Marginal	Average	Marginal	Average	Marginal	Average	Marginal
Chinook:								
Net	50.9	57.2	47.5	53.3	52.3	58.8	48.9	54.9
Troll	60.9	68.4	56.8	63.8	63.2	71.0	59.1	66.4
Chum	28.1	31.6	26.3	29.6	28.0	31.4	26.7	30.0
Coho:								
Net	37.3	41.9	34.7	39.0	37.9	42.6	35.8	40.2
Troll	35.5	39.9	35.5	39.9	35.5	39.9	34.0	38.2
Pink	40.9	45.9	38.1	42.8	42.4	47.7	39.8	44.7
Sockeye	57.8	65.0	53.9	60.5	59.3	66.6	55.1	62.0
Steelhead	40.9	45.9	38.1	42.8	42.4	47.7	39.8	44.7

Table D-23. Multipliers (personal income per pound of landings) used to estimate total income effects resulting from changes in commercial fishing landings.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal		Statewide	
Species	Average	Marginal	Average	Marginal	Average	Marginal	Average	Marginal
Chinook:								
Net	$1.63	$1.83	$1.72	$1.93	$1.55	$1.74	$1.70	$1.91
Troll	$1.95	$2.19	$2.06	$2.31	$1.87	$2.10	$2.06	$2.31
Chum	$0.90	$1.01	$0.95	$1.07	$0.83	$0.93	$0.93	$1.04
Coho:								
Net	$1.19	$1.34	$1.25	$1.41	$1.12	$1.26	$1.24	$1.40
Troll	$1.05	$1.18	$1.05	$1.18	$1.05	$1.18	$1.18	$1.33
Pink	$1.31	$1.47	$1.38	$1.55	$1.25	$1.41	$1.38	$1.56
Sockeye	$1.85	$2.08	$1.95	$2.19	$1.75	$1.97	$1.92	$2.15
Steelhead	$1.31	$1.47	$1.38	$1.55	$1.25	$1.41	$1.38	$1.56

D4.1.2 Step 2: Estimate Total Economic Effects Resulting from Changes in Sport Fishing Expenditures

Total changes in employment (full-time equivalent) and personal income (wages, profits, and other income) resulting from changes in sport fishing expenditures were estimated using regional and statewide coefficients and multipliers developed by The Research Group (Attachment D to this appendix) through its FEAM model. Using a methodology similar to the one employed to develop commercial fishing factors (Step 1), sport fishing impact factors (i.e., coefficients and multipliers) were developed for custom sport fishing industry sectors consisting of aggregated and disaggregated

IMPLAN industrial sectors. The coefficients represent the total number of full-time-equivalent jobs and total personal income generated per million dollars and per dollar, respectively, of angler expenditures in the following sectors: transportation, food, lodging, boat fuel, party/charter fees, access/boat launching, equipment rental, and bait and ice.

Table D-24 shows the multipliers generated by the FEAM model and used in the analysis.. These multipliers were applied to expenditures by non-local (i.e., residing outside of the region) anglers estimated for each alternative to arrive at estimates of total regional jobs and personal income generated by estimated salmon sport fishing expenditures. Only expenditures by non-local (i.e., not residing in the affected region) and non-resident (i.e., not residing in Washington) anglers were considered in the evaluation of regional economic impacts because expenditures by local residents would only shift sales, jobs, and personal income within each region, and would likely not generate a net change in regional economic activity.

Table D-24. Multipliers used to estimate total regional economic effects resulting from changes in sport fishing expenditures.

	North Puget Sound		South Puget Sound/South Hood Canal		The Straits of Juan de Fuca/North Hood Canal		Statewide	
Sector	Jobs[1]	Personal Income[2]	Jobs[1]	Personal Income[2]	Jobs[1]	Personal Income[2]	Jobs[1]	Personal Income[2]
Transportation	17.4	$0.62	15.6	$0.68	18.9	$0.55	14.9	$0.69
Food	23.3	$0.63	20.4	$0.74	22.5	$0.49	23.3	$0.78
Lodging	25.8	$0.82	22.4	$0.91	29.2	$0.76	25.3	$0.92
Boat fuel	9.5	$0.51	9.0	$0.57	12.1	$0.46	9.8	$0.58
Party/Charter Fees	37.4	$0.84	39.5	$0.92	38.8	$0.80	41.4	$0.94
Access/Boat Launching	27.8	$0.75	28.4	$0.85	29.2	$0.67	30.1	$0.86
Equipment Rental	16.3	$0.68	14.8	$0.83	18.7	$0.55	16.5	$0.83
Bait and Ice	13.5	$0.83	10.5	$0.87	13.1	$0.81	12.3	$0.89

Notes:

[1] Represents the number of full-time-equivalent jobs per million dollars of angler expenditures.

[2] Represents the amount of personal income per dollar of angler expenditures.

D4.2 Key Assumptions Used in the Analysis

The following key assumption was incorporated into the assessment of regional economic effects:

> Changes in sport fishing expenditures by local residents of an economic region would result in no net changes in regional employment or personal income.

D4.3 Estimated Values

The estimated regional and statewide effects on sales, employment, and personal income resulting from the methodology and assumptions described above are presented in Tables D-25 through D-28 for all alternatives under Scenario B (2003 abundance and 2003 Canadian/Alaskan fisheries).

Table D-25. Total changes in employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	14.6	1.3	0.0	15.4
Tribal				
Marine Net	17.8	8.5	0.9	26.8
Marine Troll	0.0	0.0	0.8	0.8
Freshwater Net	1.8	20.7	0.0	23.1
Tribal Subtotal	19.7	29.2	1.8	50.7
Total	34.2	30.5	1.8	66.0
Coho				
Non-tribal				
Marine Net	3.4	1.3	0.4	5.0
Tribal				
Marine Net	15.9	16.7	4.6	36.9
Marine Troll	0.0	0.0	0.2	0.2
Freshwater Net	5.7	13.8	0.4	20.1
Tribal Subtotal	21.5	30.6	5.2	57.1
Total	25.0	31.9	5.6	62.2
Sockeye				
Non-tribal				
Marine Net	79.2	0.0	0.0	75.5
Tribal				
Marine Net	82.1	0.0	8.7	86.4
Freshwater Net	0.1	13.2	0.0	13.6
Tribal Subtotal	82.2	13.2	8.7	100.0
Total	161.5	13.2	8.7	175.5
Pink				
Non-tribal				
Marine Net	111.6	0.6	0.0	109.3
Tribal				
Marine Net	107.6	4.2	0.2	109.3
Freshwater Net	7.5	0.0	0.0	7.3
Tribal Subtotal	115.1	4.2	0.2	116.7
Total	226.8	4.9	0.2	226.0
Chum				
Non-tribal				
Marine Net	29.6	64.0	0.0	93.1
Tribal				
Marine Net	24.9	53.8	2.6	80.8
Freshwater Net	16.8	22.6	0.0	39.0
Tribal Subtotal	41.8	76.4	2.6	119.8
Total	71.4	140.4	2.6	212.9
Steelhead				
Non-tribal				
Marine Net	0.0	0.0	0.0	0.0
Tribal				
Marine Net	0.1	0.0	0.0	0.1
Freshwater Net	0.1	0.2	0.2	0.4
Tribal Subtotal	0.2	0.2	0.2	0.5
Total	0.2	0.2	0.2	0.5
Total				
Non-tribal				
Marine Net	238.5	67.3	0.4	298.4
Tribal				
Marine Net	248.5	83.3	17.2	340.4
Marine Troll	0.0	0.0	1.0	1.0
Freshwater Net	32.0	70.6	0.6	103.4
Tribal Subtotal	280.5	153.8	18.8	444.8
Total	519.0	221.1	19.2	743.1

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-25. Total changes in employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-14.6	-100.0%	0.0	-1.3	-100.0%	0.0	0.0	0.0%	0.0	-15.4	-100.0%
Tribal												
Marine Net	5.1	-12.7	-71.2%	0.0	-8.5	-100.0%	0.0	-0.9	-100.0%	4.9	-21.9	-81.6%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.8	-100.0%	0.0	-0.8	-100.0%
Freshwater Net	0.5	-1.3	-73.3%	25.1	4.4	21.5%	0.0	0.0	-100.0%	26.3	3.3	14.3%
Tribal Subtotal	5.6	-14.0	-71.4%	25.1	-4.1	-14.0%	0.0	-1.8	-100.0%	31.3	-19.4	-38.3%
Total	5.6	-28.6	-83.6%	25.1	-5.4	-17.7%	0.0	-1.8	-100.0%	31.3	-34.7	-52.6%
Coho												
Non-tribal												
Marine Net	0.1	-3.3	-96.7%	0.0	-1.3	-100.0%	0.5	0.1	22.2%	0.6	-4.5	-88.4%
Tribal												
Marine Net	0.0	-15.9	-100.0%	0.0	-16.7	-100.0%	0.0	-4.6	-100.0%	0.0	-36.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.2	-100.0%	0.0	-0.2	-100.0%
Freshwater Net	6.7	1.0	17.6%	14.5	0.6	4.5%	0.4	0.0	-4.5%	21.7	1.6	7.9%
Tribal Subtotal	6.7	-14.9	-69.1%	14.5	-16.1	-52.7%	0.4	-4.8	-93.2%	21.7	-35.5	-62.1%
Total	6.8	-18.2	-72.9%	14.5	-17.4	-54.6%	0.9	-4.8	-84.7%	22.2	-39.9	-64.2%
Sockeye												
Non-tribal												
Marine Net	0.0	-79.2	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-75.5	-100.0%
Tribal												
Marine Net	0.0	-82.1	-100.0%	0.0	0.0	0.0%	0.0	-8.7	-100.0%	0.0	-86.4	-100.0%
Freshwater Net	0.0	-0.1	-100.0%	0.0	-13.2	-100.0%	0.0	0.0	0.0%	0.0	-13.6	-100.0%
Tribal Subtotal	0.0	-82.2	-100.0%	0.0	-13.2	-100.0%	0.0	-8.7	-100.0%	0.0	-100.0	-100.0%
Total	0.0	-161.5	-100.0%	0.0	-13.2	-100.0%	0.0	-8.7	-100.0%	0.0	-175.5	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-111.6	-100.0%	0.0	-0.6	-100.0%	0.0	0.0	0.0%	0.0	-109.3	-100.0%
Tribal												
Marine Net	0.0	-107.6	-100.0%	0.0	-4.2	-100.0%	0.0	-0.2	-100.0%	0.0	-109.3	-100.0%
Freshwater Net	13.5	6.0	79.6%	3.9	3.9	15257.6%	0.0	0.0	0.0%	17.3	9.9	135.0%
Tribal Subtotal	13.5	-101.6	-88.3%	3.9	-0.3	-6.9%	0.0	-0.2	-100.0%	17.3	-99.4	-85.2%
Total	13.5	-213.3	-94.0%	3.9	-0.9	-19.3%	0.0	-0.2	-100.0%	17.3	-208.7	-92.4%
Chum												
Non-tribal												
Marine Net	0.0	-29.6	-100.0%	0.0	-64.0	-100.0%	0.0	0.0	0.0%	0.0	-93.1	-100.0%
Tribal												
Marine Net	0.0	-24.9	-100.0%	0.0	-53.8	-100.0%	0.0	-2.6	-100.0%	0.0	-80.8	-100.0%
Freshwater Net	0.6	-16.3	-96.7%	42.9	20.3	89.6%	0.0	0.0	0.0%	44.1	5.1	13.1%
Tribal Subtotal	0.6	-41.2	-98.7%	42.9	-33.5	-43.9%	0.0	-2.6	-100.0%	44.1	-75.7	-63.2%
Total	0.6	-70.9	-99.2%	42.9	-97.5	-69.4%	0.0	-2.6	-100.0%	44.1	-168.8	-79.3%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	-0.1	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	-0.1	-100.0%
Freshwater Net	0.1	0.0	-9.2%	0.2	0.0	-0.5%	0.2	0.0	-1.6%	0.4	0.0	-2.4%
Tribal Subtotal	0.1	-0.1	-59.6%	0.2	0.0	-1.6%	0.2	0.0	-18.8%	0.4	-0.1	-24.6%
Total	0.1	-0.1	-59.6%	0.2	0.0	-1.6%	0.2	0.0	-18.8%	0.4	-0.1	-24.6%
Total												
Non-tribal												
Marine Net	0.1	-238.4	-100.0%	0.0	-67.3	-100.0%	0.5	0.1	22.2%	0.6	-297.8	-99.8%
Tribal												
Marine Net	5.1	-243.3	-97.9%	0.0	-83.3	-100.0%	0.0	-17.2	-100.0%	4.9	-335.4	-98.6%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-1.0	-100.0%	0.0	-1.0	-100.0%
Freshwater Net	21.3	-10.7	-33.5%	86.6	16.1	22.8%	0.5	0.0	-3.8%	109.8	6.3	6.1%
Tribal Subtotal	26.4	-254.1	-90.6%	86.6	-67.2	-43.7%	0.5	-18.3	-97.2%	114.7	-330.1	-74.2%
Total	26.5	-492.5	-94.9%	86.6	-134.5	-60.8%	1.0	-18.2	-94.6%	115.3	-627.9	-84.5%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-25. Total changes in employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-14.6	-100.0%	0.0	-1.3	-100.0%	0.0	0.0	0.0%	0.0	-15.4	-100.0%
Tribal												
Marine Net	0.0	-17.8	-100.0%	0.0	-8.5	-100.0%	0.0	-0.9	-100.0%	0.0	-26.8	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.8	-100.0%	0.0	-0.8	-100.0%
Freshwater Net	0.0	-1.8	-100.0%	25.1	4.4	21.5%	0.0	0.0	-100.0%	25.9	2.8	12.2%
Tribal Subtotal	0.0	-19.7	-100.0%	25.1	-4.1	-14.0%	0.0	-1.8	-100.0%	25.9	-24.8	-48.9%
Total	0.0	-34.2	-100.0%	25.1	-5.4	-17.7%	0.0	-1.8	-100.0%	25.9	-40.1	-60.8%
Coho												
Non-tribal												
Marine Net	0.1	-3.3	-96.7%	0.0	-1.3	-100.0%	0.5	0.1	22.2%	0.6	-4.5	-88.4%
Tribal												
Marine Net	0.0	-15.9	-100.0%	0.0	-16.7	-100.0%	0.0	-4.6	-100.0%	0.0	-36.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.2	-100.0%	0.0	-0.2	-100.0%
Freshwater Net	0.0	-5.6	-99.5%	14.5	0.6	4.5%	0.4	0.0	-4.5%	15.3	-4.8	-23.8%
Tribal Subtotal	0.0	-21.5	-99.9%	14.5	-16.1	-52.7%	0.4	-4.8	-93.2%	15.3	-41.8	-73.2%
Total	0.1	-24.8	-99.4%	14.5	-17.4	-54.6%	0.9	-4.8	-84.7%	15.9	-46.3	-74.5%
Sockeye												
Non-tribal												
Marine Net	0.0	-79.2	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-75.5	-100.0%
Tribal												
Marine Net	0.0	-82.1	-100.0%	0.0	0.0	0.0%	0.0	-8.7	-100.0%	0.0	-86.4	-100.0%
Freshwater Net	0.0	-0.1	-100.0%	0.0	-13.2	-100.0%	0.0	0.0	0.0%	0.0	-13.6	-100.0%
Tribal Subtotal	0.0	-82.2	-100.0%	0.0	-13.2	-100.0%	0.0	-8.7	-100.0%	0.0	-100.0	-100.0%
Total	0.0	-161.5	-100.0%	0.0	-13.2	-100.0%	0.0	-8.7	-100.0%	0.0	-175.5	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-111.6	-100.0%	0.0	-0.6	-100.0%	0.0	0.0	0.0%	0.0	-109.3	-100.0%
Tribal												
Marine Net	0.0	-107.6	-100.0%	0.0	-4.2	-100.0%	0.0	-0.2	-100.0%	0.0	-109.3	-100.0%
Freshwater Net	0.0	-7.5	-100.0%	3.9	3.9	15257.6%	0.0	0.0	0.0%	4.1	-3.2	-44.0%
Tribal Subtotal	0.0	-115.1	-100.0%	3.9	-0.3	-6.9%	0.0	-0.2	-100.0%	4.1	-112.5	-96.5%
Total	0.0	-226.8	-100.0%	3.9	-0.9	-19.3%	0.0	-0.2	-100.0%	4.1	-221.9	-98.2%
Chum												
Non-tribal												
Marine Net	0.0	-29.6	-100.0%	0.0	-64.0	-100.0%	0.0	0.0	0.0%	0.0	-93.1	-100.0%
Tribal												
Marine Net	0.0	-24.9	-100.0%	0.0	-53.8	-100.0%	0.0	-2.6	-100.0%	0.0	-80.8	-100.0%
Freshwater Net	0.3	-16.5	-98.0%	42.9	20.3	89.6%	0.0	0.0	0.0%	43.9	4.9	12.6%
Tribal Subtotal	0.3	-41.5	-99.2%	42.9	-33.5	-43.9%	0.0	-2.6	-100.0%	43.9	-75.9	-63.4%
Total	0.3	-71.1	-99.5%	42.9	-97.5	-69.4%	0.0	-2.6	-100.0%	43.9	-169.1	-79.4%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	-0.1	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	-0.1	-100.0%
Freshwater Net	0.1	0.0	-9.2%	0.2	0.0	-0.5%	0.2	0.0	-1.6%	0.4	0.0	-2.4%
Tribal Subtotal	0.1	-0.1	-59.6%	0.2	0.0	-1.6%	0.2	0.0	-18.8%	0.4	-0.1	-24.6%
Total	0.1	-0.1	-59.6%	0.2	0.0	-1.6%	0.2	0.0	-18.8%	0.4	-0.1	-24.6%
Total												
Non-tribal												
Marine Net	0.1	-238.4	-100.0%	0.0	-67.3	-100.0%	0.5	0.1	22.2%	0.6	-297.8	-99.8%
Tribal												
Marine Net	0.0	-248.5	-100.0%	0.0	-83.3	-100.0%	0.0	-17.2	-100.0%	0.0	-340.4	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-1.0	-100.0%	0.0	-1.0	-100.0%
Freshwater Net	0.4	-31.6	-98.7%	86.6	16.1	22.8%	0.5	0.0	-3.8%	89.6	-13.9	-13.4%
Tribal Subtotal	0.4	-280.1	-99.8%	86.6	-67.2	-43.7%	0.5	-18.3	-97.2%	89.6	-355.2	-79.9%
Total	0.5	-518.5	-99.9%	86.6	-134.5	-60.8%	1.0	-18.2	-94.6%	90.2	-653.0	-87.9%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-25. Total changes in employment (in full-time equivalent jobs) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	0.0	-14.6	-100.0%	0.0	-1.3	-100.0%	0.0	0.0	0.0%	0.0	-15.4	-100.0%
Tribal												
Marine Net	0.0	-17.8	-100.0%	0.0	-8.5	-100.0%	0.0	-0.9	-100.0%	0.0	-26.8	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.8	-100.0%	0.0	-0.8	-100.0%
Freshwater Net	0.0	-1.8	-100.0%	0.0	-20.7	-100.0%	0.0	0.0	-100.0%	0.0	-23.1	-100.0%
Tribal Subtotal	0.0	-19.7	-100.0%	0.0	-29.2	-100.0%	0.0	-1.8	-100.0%	0.0	-50.7	-100.0%
Total	0.0	-34.2	-100.0%	0.0	-30.5	-100.0%	0.0	-1.8	-100.0%	0.0	-66.0	-100.0%
Coho												
Non-tribal												
Marine Net	0.0	-3.4	-100.0%	0.0	-1.3	-100.0%	0.0	-0.4	-100.0%	0.0	-5.0	-100.0%
Tribal												
Marine Net	0.0	-15.9	-100.0%	0.0	-16.7	-100.0%	0.0	-4.6	-100.0%	0.0	-36.9	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-0.2	-100.0%	0.0	-0.2	-100.0%
Freshwater Net	0.0	-5.7	-100.0%	0.0	-13.8	-100.0%	0.0	-0.4	-100.0%	0.0	-20.1	-100.0%
Tribal Subtotal	0.0	-21.5	-100.0%	0.0	-30.6	-100.0%	0.0	-5.2	-100.0%	0.0	-57.1	-100.0%
Total	0.0	-25.0	-100.0%	0.0	-31.9	-100.0%	0.0	-5.6	-100.0%	0.0	-62.2	-100.0%
Sockeye												
Non-tribal												
Marine Net	0.0	-79.2	-100.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-75.5	-100.0%
Tribal												
Marine Net	0.0	-82.1	-100.0%	0.0	0.0	0.0%	0.0	-8.7	-100.0%	0.0	-86.4	-100.0%
Freshwater Net	0.0	-0.1	-100.0%	0.0	-13.2	-100.0%	0.0	0.0	0.0%	0.0	-13.6	-100.0%
Tribal Subtotal	0.0	-82.2	-100.0%	0.0	-13.2	-100.0%	0.0	-8.7	-100.0%	0.0	-100.0	-100.0%
Total	0.0	-161.5	-100.0%	0.0	-13.2	-100.0%	0.0	-8.7	-100.0%	0.0	-175.5	-100.0%
Pink												
Non-tribal												
Marine Net	0.0	-111.6	-100.0%	0.0	-0.6	-100.0%	0.0	0.0	0.0%	0.0	-109.3	-100.0%
Tribal												
Marine Net	0.0	-107.6	-100.0%	0.0	-4.2	-100.0%	0.0	-0.2	-100.0%	0.0	-109.3	-100.0%
Freshwater Net	0.0	-7.5	-100.0%	0.0	0.0	-100.0%	0.0	0.0	0.0%	0.0	-7.3	-100.0%
Tribal Subtotal	0.0	-115.1	-100.0%	0.0	-4.2	-100.0%	0.0	-0.2	-100.0%	0.0	-116.7	-100.0%
Total	0.0	-226.8	-100.0%	0.0	-4.9	-100.0%	0.0	-0.2	-100.0%	0.0	-226.0	-100.0%
Chum												
Non-tribal												
Marine Net	0.0	-29.6	-100.0%	0.0	-64.0	-100.0%	0.0	0.0	0.0%	0.0	-93.1	-100.0%
Tribal												
Marine Net	0.0	-24.9	-100.0%	0.0	-53.8	-100.0%	0.0	-2.6	-100.0%	0.0	-80.8	-100.0%
Freshwater Net	0.3	-16.5	-98.0%	10.7	-11.9	-52.6%	0.0	0.0	0.0%	11.2	-27.8	-71.3%
Tribal Subtotal	0.3	-41.5	-99.2%	10.7	-65.7	-86.0%	0.0	-2.6	-100.0%	11.2	-108.6	-90.6%
Total	0.3	-71.1	-99.5%	10.7	-129.7	-92.4%	0.0	-2.6	-100.0%	11.2	-201.7	-94.7%
Steelhead												
Non-tribal												
Marine Net	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	0.0	0.0%
Tribal												
Marine Net	0.0	-0.1	-100.0%	0.0	0.0	-100.0%	0.0	0.0	-100.0%	0.0	-0.1	-100.0%
Freshwater Net	0.1	0.0	-9.2%	0.1	0.0	-22.0%	0.2	0.0	-1.8%	0.4	0.0	-11.7%
Tribal Subtotal	0.1	-0.1	-59.6%	0.1	0.0	-22.9%	0.2	0.0	-19.0%	0.4	-0.2	-31.8%
Total	0.1	-0.1	-59.6%	0.1	0.0	-22.9%	0.2	0.0	-19.0%	0.4	-0.2	-31.8%
Total												
Non-tribal												
Marine Net	0.0	-238.5	-100.0%	0.0	-67.3	-100.0%	0.0	-0.4	-100.0%	0.0	-298.4	-100.0%
Tribal												
Marine Net	0.0	-248.5	-100.0%	0.0	-83.3	-100.0%	0.0	-17.2	-100.0%	0.0	-340.4	-100.0%
Marine Troll	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0	-1.0	-100.0%	0.0	-1.0	-100.0%
Freshwater Net	0.4	-31.6	-98.8%	10.9	-59.7	-84.6%	0.2	-0.4	-67.5%	11.6	-91.9	-88.8%
Tribal Subtotal	0.4	-280.1	-99.9%	10.9	-143.0	-92.9%	0.2	-18.6	-99.0%	11.6	-433.2	-97.4%
Total	0.4	-518.6	-99.9%	10.9	-210.3	-95.1%	0.2	-19.0	-99.1%	11.6	-731.6	-98.4%

Table D-26. Total changes in personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Specie	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Chinook				
Non-tribal				
Marine Net	$466,788	$47,523	$0	$533,805
Tribal				
Marine Net	$570,920	$309,485	$27,809	$931,826
Marine Troll	$0	$0	$25,101	$27,651
Freshwater Net	$58,461	$749,176	$53	$801,495
Tribal Subtotal	$629,382	$1,058,662	$52,963	$1,760,971
Total	$1,096,169	$1,106,185	$52,963	$2,294,776
Coho				
Non-tribal				
Marine Net	$109,222	$47,940	$12,230	$174,909
Tribal				
Marine Net	$506,229	$602,493	$137,231	$1,277,107
Marine Troll	$0	$0	$5,532	$6,217
Freshwater Net	$180,749	$498,898	$10,908	$695,328
Tribal Subtotal	$686,979	$1,101,391	$153,672	$1,978,653
Total	$796,201	$1,149,332	$165,903	$2,153,561
Sockeye				
Non-tribal				
Marine Net	$2,536,466	$0	$0	$2,632,440
Tribal				
Marine Net	$2,629,194	$0	$257,057	$3,010,705
Freshwater Net	$2,373	$477,167	$0	$472,288
Tribal Subtotal	$2,631,567	$477,167	$257,057	$3,482,994
Total	$5,168,033	$477,167	$257,057	$6,115,434
Pink				
Non-tribal				
Marine Net	$3,575,829	$23,534	$0	$3,790,438
Tribal				
Marine Net	$3,446,602	$152,341	$6,595	$3,790,394
Freshwater Net	$240,873	$929	$0	$254,673
Tribal Subtotal	$3,687,474	$153,270	$6,595	$4,045,067
Total	$7,263,304	$176,804	$6,595	$7,835,505
Chum				
Non-tribal				
Marine Net	$949,063	$2,311,477	$0	$3,243,513
Tribal				
Marine Net	$798,800	$1,943,299	$78,408	$2,815,669
Freshwater Net	$539,541	$817,262	$0	$1,357,582
Tribal Subtotal	$1,338,342	$2,760,560	$78,408	$4,173,252
Total	$2,287,405	$5,072,038	$78,408	$7,416,765
Steelhead				
Non-tribal				
Marine Net	$0	$0	$0	$0
Tribal				
Marine Net	$2,837	$74	$1,142	$4,324
Freshwater Net	$2,276	$6,292	$5,386	$14,636
Tribal Subtotal	$5,113	$6,366	$6,529	$18,960
Total	$5,113	$6,366	$6,529	$18,960
Total				
Non-tribal				
Marine Net	$7,637,368	$2,430,475	$12,230	$10,375,105
Tribal				
Marine Net	$7,954,583	$3,007,692	$508,244	$11,830,026
Marine Troll	$0	$0	$30,633	$33,868
Freshwater Net	$1,024,273	$2,549,724	$16,347	$3,596,002
Tribal Subtotal	$8,978,856	$5,557,417	$555,224	$15,459,896
Total	$16,616,225	$7,987,892	$567,454	$25,835,001

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-26. Total changes in personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$43	-$466,745	-100.0%	$0	-$47,523	-100.0%	$0	$0	0.0%	$45	-$533,760	-100.0%
Tribal												
Marine Net	$164,182	-$406,739	-71.2%	$0	-$309,485	-100.0%	$0	-$27,809	-100.0%	$171,232	-$760,593	-81.6%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$25,101	-100.0%	$0	-$27,651	-100.0%
Freshwater Net	$15,604	-$42,857	-73.3%	$910,217	$161,040	21.5%	$0	-$53	-100.0%	$915,907	$114,413	14.3%
Tribal Subtotal	$179,786	-$449,596	-71.4%	$910,217	-$148,445	-14.0%	$0	-$52,963	-100.0%	$1,087,140	-$673,832	-38.3%
Total	$179,829	-$916,340	-83.6%	$910,217	-$195,968	-17.7%	$0	-$52,963	-100.0%	$1,087,185	-$1,207,591	-52.6%
Coho												
Non-tribal												
Marine Net	$3,576	-$105,646	-96.7%	$0	-$47,940	-100.0%	$14,941	$2,711	22.2%	$20,268	-$154,641	-88.4%
Tribal												
Marine Net	$0	-$506,229	-100.0%	$0	-$602,493	-100.0%	$0	-$137,231	-100.0%	$0	-$1,277,107	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$5,532	-100.0%	$0	-$6,217	-100.0%
Freshwater Net	$212,576	$31,827	17.6%	$521,361	$22,463	4.5%	$10,413	-$495	-4.5%	$750,227	$54,899	7.9%
Tribal Subtotal	$212,576	-$474,403	-69.1%	$521,361	-$580,030	-52.7%	$10,413	-$143,259	-93.2%	$750,227	-$1,228,425	-62.1%
Total	$216,152	-$580,049	-72.9%	$521,361	-$627,970	-54.6%	$25,354	-$140,548	-84.7%	$770,495	-$1,383,066	-64.2%
Sockeye												
Non-tribal												
Marine Net	$0	-$2,536,466	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,632,440	-100.0%
Tribal												
Marine Net	$0	-$2,629,194	-100.0%	$0	$0	0.0%	$0	-$257,057	-100.0%	$0	-$3,010,705	-100.0%
Freshwater Net	$0	-$2,373	-100.0%	$0	-$477,167	-100.0%	$0	$0	0.0%	$0	-$472,288	-100.0%
Tribal Subtotal	$0	-$2,631,567	-100.0%	$0	-$477,167	-100.0%	$0	-$257,057	-100.0%	$0	-$3,482,994	-100.0%
Total	$0	-$5,168,033	-100.0%	$0	-$477,167	-100.0%	$0	-$257,057	-100.0%	$0	-$6,115,434	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$3,575,829	-100.0%	$0	-$23,534	-100.0%	$0	$0	0.0%	$0	-$3,790,438	-100.0%
Tribal												
Marine Net	$0	-$3,446,602	-100.0%	$0	-$152,341	-100.0%	$0	-$6,595	-100.0%	$0	-$3,790,394	-100.0%
Freshwater Net	$432,646	$191,773	79.6%	$142,675	$141,746	15257.6%	$0	$0	0.0%	$598,439	$343,767	135.0%
Tribal Subtotal	$432,646	-$3,254,829	-88.3%	$142,675	-$10,595	-6.9%	$0	-$6,595	-100.0%	$598,439	-$3,446,627	-85.2%
Total	$432,646	-$6,830,658	-94.0%	$142,675	-$34,129	-19.3%	$0	-$6,595	-100.0%	$598,439	-$7,237,065	-92.4%
Chum												
Non-tribal												
Marine Net	$0	-$949,063	-100.0%	$0	-$2,311,477	-100.0%	$0	$0	0.0%	$0	-$3,243,513	-100.0%
Tribal												
Marine Net	$0	-$798,800	-100.0%	$0	-$1,943,299	-100.0%	$0	-$78,408	-100.0%	$0	-$2,815,669	-100.0%
Freshwater Net	$18,062	-$521,479	-96.7%	$1,549,864	$732,602	89.6%	$18	$18	0.0%	$1,535,920	$178,338	13.1%
Tribal Subtotal	$18,062	-$1,320,280	-98.7%	$1,549,864	-$1,210,697	-43.9%	$18	-$78,390	-100.0%	$1,535,920	-$2,637,332	-63.2%
Total	$18,062	-$2,269,343	-99.2%	$1,549,864	-$3,522,174	-69.4%	$18	-$78,390	-100.0%	$1,535,920	-$5,880,845	-79.3%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$2,837	-100.0%	$0	-$74	-100.0%	$0	-$1,142	-100.0%	$0	-$4,324	-100.0%
Freshwater Net	$2,067	-$209	-9.2%	$6,263	-$29	-0.5%	$5,299	-$87	-1.6%	$14,291	-$345	-2.4%
Tribal Subtotal	$2,067	-$3,047	-59.6%	$6,263	-$103	-1.6%	$5,299	-$1,229	-18.8%	$14,291	-$4,669	-24.6%
Total	$2,067	-$3,047	-59.6%	$6,263	-$103	-1.6%	$5,299	-$1,229	-18.8%	$14,291	-$4,669	-24.6%
Total												
Non-tribal												
Marine Net	$3,619	-$7,633,749	-100.0%	$0	-$2,430,475	-100.0%	$14,941	$2,711	22.2%	$20,313	-$10,354,792	-99.8%
Tribal												
Marine Net	$164,182	-$7,790,402	-97.9%	$0	-$3,007,692	-100.0%	$0	-$508,244	-100.0%	$171,232	-$11,658,793	-98.6%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$30,633	-100.0%	$0	-$33,868	-100.0%
Freshwater Net	$680,955	-$343,318	-33.5%	$3,130,380	$580,655	22.8%	$15,731	-$616	-3.8%	$3,814,784	$218,782	6.1%
Tribal Subtotal	$845,136	-$8,133,720	-90.6%	$3,130,380	-$2,427,037	-43.7%	$15,731	-$539,493	-97.2%	$3,986,017	-$11,473,879	-74.2%
Total	$848,756	-$15,767,469	-94.9%	$3,130,380	-$4,857,512	-60.8%	$30,672	-$536,782	-94.6%	$4,006,330	-$21,828,671	-84.5%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-26. Total changes in personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$43	-$466,745	-100.0%	$0	-$47,523	-100.0%	$0	$0	0.0%	$45	-$533,760	-100.0%
Tribal												
Marine Net	$0	-$570,920	-100.0%	$0	-$309,485	-100.0%	$0	-$27,809	-100.0%	$0	-$931,826	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$25,101	-100.0%	$0	-$27,651	-100.0%
Freshwater Net	$0	-$58,461	-100.0%	$910,217	$161,040	21.5%	$0	-$53	-100.0%	$899,633	$98,138	12.2%
Tribal Subtotal	$0	-$629,382	-100.0%	$910,217	-$148,445	-14.0%	$0	-$52,963	-100.0%	$899,633	-$861,338	-48.9%
Total	$43	-$1,096,126	-100.0%	$910,217	-$195,968	-17.7%	$0	-$52,963	-100.0%	$899,678	-$1,395,098	-60.8%
Coho												
Non-tribal												
Marine Net	$3,576	-$105,646	-96.7%	$0	-$47,940	-100.0%	$14,941	$2,711	22.2%	$20,268	-$154,641	-88.4%
Tribal												
Marine Net	$0	-$506,229	-100.0%	$0	-$602,493	-100.0%	$0	-$137,231	-100.0%	$0	-$1,277,107	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$5,532	-100.0%	$0	-$6,217	-100.0%
Freshwater Net	$917	-$179,832	-99.5%	$521,361	$22,463	4.5%	$10,413	-$495	-4.5%	$529,675	-$165,653	-23.8%
Tribal Subtotal	$917	-$686,062	-99.9%	$521,361	-$580,030	-52.7%	$10,413	-$143,259	-93.2%	$529,675	-$1,448,978	-73.2%
Total	$4,493	-$791,707	-99.4%	$521,361	-$627,970	-54.6%	$25,354	-$140,548	-84.7%	$549,943	-$1,603,618	-74.5%
Sockeye												
Non-tribal												
Marine Net	$0	-$2,536,466	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,632,440	-100.0%
Tribal												
Marine Net	$0	-$2,629,194	-100.0%	$0	$0	0.0%	$0	-$257,057	-100.0%	$0	-$3,010,705	-100.0%
Freshwater Net	$0	-$2,373	-100.0%	$0	-$477,167	-100.0%	$0	$0	0.0%	$0	-$472,288	-100.0%
Tribal Subtotal	$0	-$2,631,567	-100.0%	$0	-$477,167	-100.0%	$0	-$257,057	-100.0%	$0	-$3,482,994	-100.0%
Total	$0	-$5,168,033	-100.0%	$0	-$477,167	-100.0%	$0	-$257,057	-100.0%	$0	-$6,115,434	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$3,575,829	-100.0%	$0	-$23,534	-100.0%	$0	$0	0.0%	$0	-$3,790,438	-100.0%
Tribal												
Marine Net	$0	-$3,446,602	-100.0%	$0	-$152,341	-100.0%	$0	-$6,595	-100.0%	$0	-$3,790,394	-100.0%
Freshwater Net	$0	-$240,873	-100.0%	$142,675	$141,746	15257.6%	$0	$0	0.0%	$142,675	-$111,998	-44.0%
Tribal Subtotal	$0	-$3,687,474	-100.0%	$142,675	-$10,595	-6.9%	$0	-$6,595	-100.0%	$142,675	-$3,902,392	-96.5%
Total	$0	-$7,263,304	-100.0%	$142,675	-$34,129	-19.3%	$0	-$6,595	-100.0%	$142,675	-$7,692,830	-98.2%
Chum												
Non-tribal												
Marine Net	$0	-$949,063	-100.0%	$0	-$2,311,477	-100.0%	$0	$0	0.0%	$0	-$3,243,513	-100.0%
Tribal												
Marine Net	$0	-$798,800	-100.0%	$0	-$1,943,299	-100.0%	$0	-$78,408	-100.0%	$0	-$2,815,669	-100.0%
Freshwater Net	$10,559	-$528,982	-98.0%	$1,549,864	$732,602	89.6%	$18	$18	0.0%	$1,528,167	$170,585	12.6%
Tribal Subtotal	$10,559	-$1,327,782	-99.2%	$1,549,864	-$1,210,697	-43.9%	$18	-$78,390	-100.0%	$1,528,167	-$2,645,084	-63.4%
Total	$10,559	-$2,276,845	-99.5%	$1,549,864	-$3,522,174	-69.4%	$18	-$78,390	-100.0%	$1,528,167	-$5,888,598	-79.4%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$2,837	-100.0%	$0	-$74	-100.0%	$0	-$1,142	-100.0%	$0	-$4,324	-100.0%
Freshwater Net	$2,067	-$209	-9.2%	$6,263	-$29	-0.5%	$5,299	-$87	-1.6%	$14,291	-$345	-2.4%
Tribal Subtotal	$2,067	-$3,047	-59.6%	$6,263	-$103	-1.6%	$5,299	-$1,229	-18.8%	$14,291	-$4,669	-24.6%
Total	$2,067	-$3,047	-59.6%	$6,263	-$103	-1.6%	$5,299	-$1,229	-18.8%	$14,291	-$4,669	-24.6%
Total												
Non-tribal												
Marine Net	$3,619	-$7,633,749	-100.0%	$0	-$2,430,475	-100.0%	$14,941	$2,711	22.2%	$20,313	-$10,354,792	-99.8%
Tribal												
Marine Net	$0	-$7,954,583	-100.0%	$0	-$3,007,692	-100.0%	$0	-$508,244	-100.0%	$0	-$11,830,026	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$30,633	-100.0%	$0	-$33,868	-100.0%
Freshwater Net	$13,543	-$1,010,730	-98.7%	$3,130,380	$580,655	22.8%	$15,731	-$616	-3.8%	$3,114,441	-$481,561	-13.4%
Tribal Subtotal	$13,543	-$8,965,313	-99.8%	$3,130,380	-$2,427,037	-43.7%	$15,731	-$539,493	-97.2%	$3,114,441	-$12,345,455	-79.9%
Total	$17,163	-$16,599,062	-99.9%	$3,130,380	-$4,857,512	-60.8%	$30,672	-$536,782	-94.6%	$3,134,754	-$22,700,247	-87.9%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-26. Total changes in personal income (in 2002 dollars) caused by changes in commercial landings under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Specie	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Chinook												
Non-tribal												
Marine Net	$0	-$466,788	-100.0%	$0	-$47,523	-100.0%	$0	$0	0.0%	$0	-$533,805	-100.0%
Tribal												
Marine Net	$0	-$570,920	-100.0%	$0	-$309,485	-100.0%	$0	-$27,809	-100.0%	$0	-$931,826	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$25,101	-100.0%	$0	-$27,651	-100.0%
Freshwater Net	$0	-$58,461	-100.0%	$0	-$749,176	-100.0%	$0	-$53	-100.0%	$0	-$801,495	-100.0%
Tribal Subtotal	$0	-$629,382	-100.0%	$0	-$1,058,662	-100.0%	$0	-$52,963	-100.0%	$0	-$1,760,971	-100.0%
Total	$0	-$1,096,169	-100.0%	$0	-$1,106,185	-100.0%	$0	-$52,963	-100.0%	$0	-$2,294,776	-100.0%
Coho												
Non-tribal												
Marine Net	$0	-$109,222	-100.0%	$0	-$47,940	-100.0%	$0	-$12,230	-100.0%	$0	-$174,909	-100.0%
Tribal												
Marine Net	$0	-$506,229	-100.0%	$0	-$602,493	-100.0%	$0	-$137,231	-100.0%	$0	-$1,277,107	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$5,532	-100.0%	$0	-$6,217	-100.0%
Freshwater Net	$0	-$180,749	-100.0%	$0	-$498,898	-100.0%	$0	-$10,908	-100.0%	$0	-$695,328	-100.0%
Tribal Subtotal	$0	-$686,979	-100.0%	$0	-$1,101,391	-100.0%	$0	-$153,672	-100.0%	$0	-$1,978,653	-100.0%
Total	$0	-$796,201	-100.0%	$0	-$1,149,332	-100.0%	$0	-$165,903	-100.0%	$0	-$2,153,561	-100.0%
Sockeye												
Non-tribal												
Marine Net	$0	-$2,536,466	-100.0%	$0	$0	0.0%	$0	$0	0.0%	$0	-$2,632,440	-100.0%
Tribal												
Marine Net	$0	-$2,629,194	-100.0%	$0	$0	0.0%	$0	-$257,057	-100.0%	$0	-$3,010,705	-100.0%
Freshwater Net	$0	-$2,373	-100.0%	$0	-$477,167	-100.0%	$0	$0	0.0%	$0	-$472,288	-100.0%
Tribal Subtotal	$0	-$2,631,567	-100.0%	$0	-$477,167	-100.0%	$0	-$257,057	-100.0%	$0	-$3,482,994	-100.0%
Total	$0	-$5,168,033	-100.0%	$0	-$477,167	-100.0%	$0	-$257,057	-100.0%	$0	-$6,115,434	-100.0%
Pink												
Non-tribal												
Marine Net	$0	-$3,575,829	-100.0%	$0	-$23,534	-100.0%	$0	$0	0.0%	$0	-$3,790,438	-100.0%
Tribal												
Marine Net	$0	-$3,446,602	-100.0%	$0	-$152,341	-100.0%	$0	-$6,595	-100.0%	$0	-$3,790,394	-100.0%
Freshwater Net	$0	-$240,873	-100.0%	$0	-$929	-100.0%	$0	$0	0.0%	$0	-$254,673	-100.0%
Tribal Subtotal	$0	-$3,687,474	-100.0%	$0	-$153,270	-100.0%	$0	-$6,595	-100.0%	$0	-$4,045,067	-100.0%
Total	$0	-$7,263,304	-100.0%	$0	-$176,804	-100.0%	$0	-$6,595	-100.0%	$0	-$7,835,505	-100.0%
Chum												
Non-tribal												
Marine Net	$0	-$949,063	-100.0%	$0	-$2,311,477	-100.0%	$0	$0	0.0%	$0	-$3,243,513	-100.0%
Tribal												
Marine Net	$0	-$798,800	-100.0%	$0	-$1,943,299	-100.0%	$0	-$78,408	-100.0%	$0	-$2,815,669	-100.0%
Freshwater Net	$10,559	-$528,982	-98.0%	$387,434	-$429,828	-52.6%	$18	$18	0.0%	$390,209	-$967,373	-71.3%
Tribal Subtotal	$10,559	-$1,327,782	-99.2%	$387,434	-$2,373,127	-86.0%	$18	-$78,390	-100.0%	$390,209	-$3,783,042	-90.6%
Total	$10,559	-$2,276,845	-99.5%	$387,434	-$4,684,604	-92.4%	$18	-$78,390	-100.0%	$390,209	-$7,026,555	-94.7%
Steelhead												
Non-tribal												
Marine Net	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%	$0	$0	0.0%
Tribal												
Marine Net	$0	-$2,837	-100.0%	$0	-$74	-100.0%	$0	-$1,142	-100.0%	$0	-$4,324	-100.0%
Freshwater Net	$2,067	-$209	-9.2%	$4,911	-$1,381	-22.0%	$5,291	-$96	-1.8%	$12,929	-$1,707	-11.7%
Tribal Subtotal	$2,067	-$3,047	-59.6%	$4,911	-$1,455	-22.9%	$5,291	-$1,238	-19.0%	$12,929	-$6,031	-31.8%
Total	$2,067	-$3,047	-59.6%	$4,911	-$1,455	-22.9%	$5,291	-$1,238	-19.0%	$12,929	-$6,031	-31.8%
Total												
Non-tribal												
Marine Net	$0	-$7,637,368	-100.0%	$0	-$2,430,475	-100.0%	$0	-$12,230	-100.0%	$0	-$10,375,105	-100.0%
Tribal												
Marine Net	$0	-$7,954,583	-100.0%	$0	-$3,007,692	-100.0%	$0	-$508,244	-100.0%	$0	-$11,830,026	-100.0%
Marine Troll	$0	$0	0.0%	$0	$0	0.0%	$0	-$30,633	-100.0%	$0	-$33,868	-100.0%
Freshwater Net	$12,626	-$1,011,647	-98.8%	$392,344	-$2,157,380	-84.6%	$5,309	-$11,038	-67.5%	$403,138	-$3,192,864	-88.8%
Tribal Subtotal	$12,626	-$8,966,230	-99.9%	$392,344	-$5,165,072	-92.9%	$5,309	-$549,915	-99.0%	$403,138	-$15,056,758	-97.4%
Total	$12,626	-$16,603,598	-99.9%	$392,344	-$7,595,547	-95.1%	$5,309	-$562,145	-99.1%	$403,138	-$25,431,863	-98.4%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

Table D-27. Total changes in employment (in full-time equivalent jobs) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Angler Group/Sector	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Local Residents				
Transportation	102.1	114.5	40.4	228.3
Food	127.0	126.4	33.4	305.9
Lodging	23.2	37.2	21.6	83.5
Boat Fuel	38.8	42.1	13.8	97.1
Party/Charter Fees	21.5	20.6	2.1	47.7
ccess/Boat Launching	5.8	12.2	6.0	25.5
Equipment Rental	11.5	10.2	2.0	24.7
Bait and Ice	77.5	67.1	19.1	167.2
Total	407.4	430.3	138.4	979.9
Non-Local Residents				
Transportation	23.5	12.7	88.4	101.9
Food	46.5	18.8	69.8	140.2
Lodging	15.6	8.4	64.8	80.9
Boat Fuel	10.7	4.7	21.0	33.2
Party/Charter Fees	15.0	7.6	28.5	55.0
ccess/Boat Launching	0.8	0.9	9.2	11.2
Equipment Rental	3.8	1.6	6.5	11.3
Bait and Ice	20.0	6.3	14.9	39.6
Total	135.8	61.0	303.1	473.4
Non-residents of the State				
Transportation	4.9	4.9	22.6	30.3
Food	7.9	6.2	14.1	33.3
Lodging	4.0	3.3	10.9	18.7
Boat Fuel	1.4	1.2	3.3	6.1
Party/Charter Fees	2.5	2.1	2.6	8.0
ccess/Boat Launching	0.3	0.3	1.5	2.4
Equipment Rental	0.6	0.5	1.5	2.6
Bait and Ice	2.2	1.4	2.1	5.8
Total	23.7	19.8	58.6	107.2
Net Impact**				
Transportation	130.5	132.1	151.4	360.5
Food	181.3	151.3	117.4	479.4
Lodging	42.8	48.8	97.3	183.1
Boat Fuel	50.9	48.0	38.1	136.4
Party/Charter Fees	39.0	30.4	33.2	110.7
ccess/Boat Launching	6.9	13.5	16.7	39.2
Equipment Rental	15.8	12.3	10.0	38.7
Bait and Ice	99.7	74.8	36.2	212.5
Total	567.0	511.2	500.1	1,560.4

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-27. Total changes in employment (in full-time equivalent jobs) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group/Sector	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Local Residents												
Transportation	21.5	-80.5	-78.9%	20.3	-94.2	-82.3%	1.1	-39.3	-97.3%	38.6	-189.7	-83.1%
Food	30.8	-96.1	-75.7%	28.5	-97.9	-77.4%	1.4	-32.0	-95.8%	64.8	-241.0	-78.8%
Lodging	1.3	-22.0	-94.6%	1.2	-36.0	-96.9%	0.1	-21.6	-99.7%	2.6	-80.9	-96.9%
Boat Fuel	9.3	-29.5	-76.0%	9.3	-32.8	-77.9%	0.6	-13.3	-96.0%	20.2	-76.9	-79.2%
Party/Charter Fees	6.6	-15.0	-69.6%	7.3	-13.3	-64.6%	0.3	-1.8	-84.8%	15.3	-32.5	-68.0%
cess/Boat Launching	0.0	-5.8	-100.0%	0.0	-12.2	-100.0%	0.0	-6.0	-100.0%	0.0	-25.5	-100.0%
Equipment Rental	3.3	-8.2	-71.5%	3.1	-7.1	-69.3%	0.2	-1.8	-91.1%	7.0	-17.8	-71.9%
Bait and Ice	19.3	-58.2	-75.1%	15.9	-51.2	-76.4%	0.9	-18.2	-95.4%	37.0	-130.2	-77.9%
Total	92.0	-315.4	-77.4%	85.6	-344.7	-80.1%	4.5	-133.9	-96.8%	185.5	-794.4	-81.1%
Non-Local Residents												
Transportation	5.1	-18.4	-78.1%	2.0	-10.8	-84.5%	0.9	-87.5	-99.0%	7.0	-94.9	-93.1%
Food	12.6	-33.9	-72.9%	4.7	-14.1	-74.8%	1.9	-67.9	-97.2%	20.0	-120.2	-85.7%
Lodging	3.3	-12.3	-78.7%	1.2	-7.2	-85.2%	0.6	-64.2	-99.1%	5.2	-75.7	-93.6%
Boat Fuel	2.9	-7.8	-72.9%	1.2	-3.5	-74.7%	0.6	-20.4	-97.2%	4.8	-28.4	-85.6%
Party/Charter Fees	3.9	-11.0	-73.7%	1.8	-5.9	-76.6%	0.7	-27.9	-97.7%	6.9	-48.1	-87.4%
cess/Boat Launching	0.0	-0.8	-100.0%	0.0	-0.9	-100.0%	0.0	-9.2	-100.0%	0.0	-11.2	-100.0%
Equipment Rental	1.0	-2.8	-72.8%	0.4	-1.2	-74.4%	0.2	-6.3	-97.1%	1.7	-9.7	-85.3%
Bait and Ice	5.8	-14.2	-70.8%	2.0	-4.3	-68.8%	0.9	-14.0	-93.9%	8.5	-31.1	-78.6%
Total	34.8	-101.0	-74.4%	13.3	-47.7	-78.2%	5.8	-297.3	-98.1%	54.0	-419.4	-88.6%
Non-residents of the State												
Transportation	0.3	-4.6	-93.3%	0.3	-4.6	-94.6%	0.1	-22.5	-99.7%	0.9	-29.4	-97.2%
Food	1.7	-6.2	-78.5%	1.3	-4.8	-78.5%	0.4	-13.8	-97.5%	4.1	-29.2	-87.7%
Lodging	0.7	-3.3	-81.8%	0.6	-2.7	-82.7%	0.2	-10.7	-98.4%	1.6	-17.1	-91.4%
Boat Fuel	0.3	-1.1	-78.4%	0.3	-0.9	-78.4%	0.1	-3.2	-97.5%	0.8	-5.4	-87.6%
Party/Charter Fees	0.7	-1.8	-73.2%	0.6	-1.5	-70.8%	0.1	-2.4	-94.4%	1.5	-6.5	-80.8%
cess/Boat Launching	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%	0.0	-1.5	-100.0%	0.0	-2.4	-100.0%
Equipment Rental	0.1	-0.5	-80.9%	0.1	-0.4	-81.6%	0.0	-1.4	-98.2%	0.2	-2.4	-91.0%
Bait and Ice	0.6	-1.6	-73.2%	0.4	-1.0	-70.6%	0.1	-2.0	-94.3%	1.1	-4.7	-80.6%
Total	4.4	-19.3	-81.4%	3.5	-16.3	-82.2%	1.0	-57.6	-98.3%	10.2	-97.0	-90.5%
Net Impact**												
Transportation	5.5	-23.0	-17.6%	2.2	-15.4	-11.6%	1.0	-110.0	-72.7%	0.9	-29.4	-8.2%
Food	14.3	-40.1	-22.1%	6.1	-18.9	-12.5%	2.3	-81.7	-69.6%	4.1	-29.2	-6.1%
Lodging	4.1	-15.5	-36.3%	1.8	-9.9	-20.2%	0.8	-74.9	-77.0%	1.6	-17.1	-9.3%
Boat Fuel	3.2	-8.9	-17.5%	1.4	-4.4	-9.2%	0.7	-23.6	-62.0%	0.8	-5.4	-3.9%
Party/Charter Fees	4.6	-12.8	-32.9%	2.4	-7.4	-24.2%	0.8	-30.3	-91.3%	1.5	-6.5	-5.8%
cess/Boat Launching	0.0	-1.0	-14.9%	0.0	-1.3	-9.4%	0.0	-10.7	-63.9%	0.0	-2.4	-6.2%
Equipment Rental	1.1	-3.2	-20.3%	0.5	-1.6	-12.8%	0.2	-7.8	-78.0%	0.2	-2.4	-6.1%
Bait and Ice	6.4	-15.8	-15.8%	2.4	-5.3	-7.1%	1.0	-16.0	-44.3%	1.1	-4.7	-2.2%
Total	39.2	-120.3	-21.2%	16.8	-64.1	-12.5%	6.8	-354.9	-71.0%	10.2	-97.0	-6.2%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.
** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-27. Total changes in employment (in full-time equivalent jobs) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group/Sector	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Transportation	12.2	-89.9	-88.1%	20.3	-94.2	-82.3%	0.4	-39.9	-98.9%	30.2	-198.2	-86.8%
Food	17.5	-109.5	-86.2%	28.5	-97.8	-77.4%	0.6	-32.8	-98.3%	50.6	-255.3	-83.5%
Lodging	0.7	-22.5	-96.9%	1.2	-36.0	-96.9%	0.0	-21.6	-99.9%	2.0	-81.4	-97.6%
Boat Fuel	5.3	-33.5	-86.4%	9.3	-32.8	-77.9%	0.2	-13.6	-98.4%	15.8	-81.3	-83.7%
Party/Charter Fees	3.7	-17.8	-82.8%	7.3	-13.3	-64.6%	0.1	-2.0	-93.9%	11.9	-35.8	-75.1%
cess/Boat Launching	0.0	-5.8	-100.0%	0.0	-12.2	-100.0%	0.0	-6.0	-100.0%	0.0	-25.5	-100.0%
Equipment Rental	1.9	-9.6	-83.9%	3.1	-7.1	-69.3%	0.1	-1.9	-96.5%	5.4	-19.3	-78.0%
Bait and Ice	10.9	-66.6	-85.9%	15.9	-51.2	-76.4%	0.3	-18.8	-98.2%	28.9	-138.3	-82.7%
Total	52.1	-355.3	-87.2%	85.6	-344.7	-80.1%	1.8	-136.6	-98.7%	144.8	-835.1	-85.2%
Non-Local Residents												
Transportation	2.9	-20.6	-87.6%	2.0	-10.8	-84.5%	0.4	-88.0	-99.6%	4.7	-97.2	-95.4%
Food	7.1	-39.3	-84.7%	4.7	-14.1	-74.8%	0.8	-69.0	-98.9%	13.3	-126.9	-90.5%
Lodging	1.9	-13.7	-87.9%	1.2	-7.2	-85.2%	0.2	-64.5	-99.6%	3.5	-77.5	-95.7%
Boat Fuel	1.7	-9.1	-84.6%	1.2	-3.5	-74.7%	0.2	-20.8	-98.9%	3.2	-30.0	-90.4%
Party/Charter Fees	2.2	-12.8	-85.1%	1.8	-5.9	-76.6%	0.3	-28.2	-99.1%	4.6	-50.4	-91.6%
cess/Boat Launching	0.0	-0.8	-100.0%	0.0	-0.9	-100.0%	0.0	-9.2	-100.0%	0.0	-11.2	-100.0%
Equipment Rental	0.6	-3.2	-84.6%	0.4	-1.2	-74.4%	0.1	-6.4	-98.8%	1.1	-10.2	-90.2%
Bait and Ice	3.3	-16.7	-83.4%	2.0	-4.3	-68.8%	0.4	-14.6	-97.6%	5.6	-33.9	-85.7%
Total	19.7	-116.1	-85.5%	13.3	-47.7	-78.2%	2.3	-300.8	-99.2%	36.0	-437.4	-92.4%
Non-residents of the State												
Transportation	0.2	-4.7	-96.2%	0.3	-4.6	-94.6%	0.0	-22.6	-99.9%	0.6	-29.7	-97.9%
Food	1.0	-6.9	-87.8%	1.3	-4.8	-78.5%	0.1	-14.0	-99.0%	3.0	-30.3	-91.0%
Lodging	0.4	-3.6	-89.7%	0.6	-2.7	-82.7%	0.1	-10.8	-99.4%	1.2	-17.5	-93.7%
Boat Fuel	0.2	-1.2	-87.8%	0.3	-0.9	-78.4%	0.0	-3.3	-99.0%	0.6	-5.6	-90.9%
Party/Charter Fees	0.4	-2.1	-84.8%	0.6	-1.5	-70.8%	0.1	-2.5	-97.8%	1.1	-6.9	-85.9%
cess/Boat Launching	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%	0.0	-1.5	-100.0%	0.0	-2.4	-100.0%
Equipment Rental	0.1	-0.5	-89.2%	0.1	-0.4	-81.6%	0.0	-1.5	-99.3%	0.2	-2.4	-93.4%
Bait and Ice	0.3	-1.8	-84.8%	0.4	-1.0	-70.6%	0.0	-2.1	-97.7%	0.8	-5.0	-85.8%
Total	2.5	-21.2	-89.5%	3.5	-16.3	-82.2%	0.4	-58.2	-99.3%	7.5	-99.7	-93.0%
Net Impact**												
Transportation	3.1	-25.3	-19.4%	2.2	-15.4	-11.6%	0.4	-110.6	-73.1%	0.6	-29.7	-8.2%
Food	8.1	-46.2	-25.5%	6.1	-18.9	-12.5%	0.9	-83.0	-70.8%	3.0	-30.3	-6.3%
Lodging	2.3	-17.3	-40.4%	1.8	-9.9	-20.2%	0.3	-75.3	-77.5%	1.2	-17.5	-9.6%
Boat Fuel	1.8	-10.3	-20.3%	1.4	-4.4	-9.2%	0.3	-24.0	-63.0%	0.6	-5.6	-4.1%
Party/Charter Fees	2.6	-14.8	-38.1%	2.4	-7.4	-24.2%	0.3	-30.8	-92.7%	1.1	-6.9	-6.2%
cess/Boat Launching	0.0	-1.0	-14.9%	0.0	-1.3	-9.4%	0.0	-10.7	-63.9%	0.0	-2.4	-6.2%
Equipment Rental	0.6	-3.7	-23.5%	0.5	-1.6	-12.8%	0.1	-7.9	-79.3%	0.2	-2.4	-6.3%
Bait and Ice	3.6	-18.5	-18.6%	2.4	-5.3	-7.1%	0.4	-16.7	-46.0%	0.8	-5.0	-2.3%
Total	22.2	-137.3	-24.2%	16.8	-64.1	-12.5%	2.7	-359.0	-71.8%	7.5	-99.7	-6.4%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-27. Total changes in employment (in full-time equivalent jobs) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group/Sector	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Transportation	0.4	-101.7	-99.6%	0.4	-114.0	-99.6%	0.0	-40.4	-100.0%	0.8	-227.6	-99.7%
Food	0.6	-126.4	-99.6%	0.6	-125.8	-99.5%	0.0	-33.4	-99.9%	1.3	-304.6	-99.6%
Lodging	0.0	-23.2	-99.9%	0.0	-37.1	-99.9%	0.0	-21.6	-100.0%	0.1	-83.4	-99.9%
Boat Fuel	0.2	-38.6	-99.6%	0.2	-41.9	-99.5%	0.0	-13.8	-99.9%	0.4	-96.7	-99.6%
Party/Charter Fees	0.1	-21.4	-99.4%	0.2	-20.5	-99.3%	0.0	-2.1	-99.8%	0.3	-47.4	-99.4%
cess/Boat Launching	0.0	-5.8	-100.0%	0.0	-12.2	-100.0%	0.0	-6.0	-100.0%	0.0	-25.5	-100.0%
Equipment Rental	0.1	-11.4	-99.5%	0.1	-10.1	-99.4%	0.0	-2.0	-99.9%	0.1	-24.6	-99.5%
Bait and Ice	0.3	-77.1	-99.5%	0.3	-66.8	-99.5%	0.0	-19.1	-99.9%	0.7	-166.4	-99.6%
Total	1.7	-405.7	-99.6%	1.8	-428.5	-99.6%	0.1	-138.3	-99.9%	3.6	-976.2	-99.6%
Non-Local Residents												
Transportation	0.1	-23.4	-99.6%	0.0	-12.7	-99.7%	0.0	-88.4	-100.0%	0.1	-101.8	-99.9%
Food	0.2	-46.2	-99.5%	0.1	-18.7	-99.5%	0.0	-69.8	-100.0%	0.4	-139.8	-99.7%
Lodging	0.1	-15.5	-99.6%	0.0	-8.4	-99.7%	0.0	-64.8	-100.0%	0.1	-80.8	-99.9%
Boat Fuel	0.1	-10.7	-99.5%	0.0	-4.7	-99.5%	0.0	-21.0	-100.0%	0.1	-33.1	-99.7%
Party/Charter Fees	0.1	-14.9	-99.5%	0.0	-7.6	-99.5%	0.0	-28.5	-100.0%	0.1	-54.9	-99.8%
cess/Boat Launching	0.0	-0.8	-100.0%	0.0	-0.9	-100.0%	0.0	-9.2	-100.0%	0.0	-11.2	-100.0%
Equipment Rental	0.0	-3.8	-99.5%	0.0	-1.6	-99.5%	0.0	-6.5	-100.0%	0.0	-11.3	-99.7%
Bait and Ice	0.1	-19.9	-99.5%	0.0	-6.2	-99.3%	0.0	-14.9	-99.9%	0.2	-39.4	-99.6%
Total	0.6	-135.2	-99.5%	0.3	-60.8	-99.5%	0.1	-303.0	-100.0%	1.0	-472.4	-99.8%
Non-residents of the State												
Transportation	0.0	-4.9	-99.9%	0.0	-4.9	-99.9%	0.0	-22.6	-100.0%	0.0	-30.3	-99.9%
Food	0.0	-7.9	-99.6%	0.0	-6.1	-99.5%	0.0	-14.1	-100.0%	0.1	-33.2	-99.8%
Lodging	0.0	-4.0	-99.7%	0.0	-3.3	-99.6%	0.0	-10.9	-100.0%	0.0	-18.7	-99.8%
Boat Fuel	0.0	-1.4	-99.6%	0.0	-1.2	-99.5%	0.0	-3.3	-100.0%	0.0	-6.1	-99.8%
Party/Charter Fees	0.0	-2.4	-99.5%	0.0	-2.1	-99.4%	0.0	-2.6	-99.9%	0.0	-8.0	-99.6%
cess/Boat Launching	0.0	-0.3	-100.0%	0.0	-0.3	-100.0%	0.0	-1.5	-100.0%	0.0	-2.4	-100.0%
Equipment Rental	0.0	-0.6	-99.7%	0.0	-0.5	-99.6%	0.0	-1.5	-100.0%	0.0	-2.6	-99.8%
Bait and Ice	0.0	-2.2	-99.5%	0.0	-1.4	-99.4%	0.0	-2.1	-99.9%	0.0	-5.8	-99.6%
Total	0.1	-23.6	-99.7%	0.1	-19.8	-99.6%	0.0	-58.6	-100.0%	0.2	-107.0	-99.8%
Net Impact**												
Transportation	0.1	-28.3	-21.7%	0.0	-17.6	-13.3%	0.0	-111.0	-73.3%	0.0	-30.3	-8.4%
Food	0.3	-54.1	-29.8%	0.1	-24.8	-16.4%	0.0	-83.9	-71.5%	0.1	-33.2	-6.9%
Lodging	0.1	-19.5	-45.6%	0.0	-11.7	-23.9%	0.0	-75.6	-77.8%	0.0	-18.7	-10.2%
Boat Fuel	0.1	-12.1	-23.7%	0.0	-5.8	-12.2%	0.0	-24.3	-63.7%	0.0	-6.1	-4.5%
Party/Charter Fees	0.1	-17.4	-44.5%	0.1	-9.7	-32.0%	0.0	-31.1	-93.7%	0.0	-8.0	-7.2%
cess/Boat Launching	0.0	-1.0	-14.9%	0.0	-1.3	-9.4%	0.0	-10.7	-63.9%	0.0	-2.4	-6.2%
Equipment Rental	0.0	-4.3	-27.4%	0.0	-2.0	-16.7%	0.0	-8.0	-80.2%	0.0	-2.6	-6.7%
Bait and Ice	0.1	-22.1	-22.1%	0.0	-7.6	-10.2%	0.0	-17.0	-47.1%	0.0	-5.8	-2.7%
Total	0.7	-158.8	-28.0%	0.4	-80.5	-15.8%	0.1	-361.6	-72.3%	0.2	-107.0	-6.9%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-28. Total changes in personal income (in 2002 dollars) caused by changes in sport fishing trips under the project alternatives.

Scenario B: 2003 Abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries.

	Alternative 1 - Proposed Action/Status Quo			
Angler Group/Sector	North Puget Sound	SPS/SHC*	SJF/ NHC*	State Total
Local Residents				
Transportation	$3,601,273	$5,025,029	$1,170,252	$10,585,672
Food	$3,451,797	$4,586,478	$733,296	$10,187,463
Lodging	$739,805	$1,506,522	$564,722	$3,031,943
Boat Fuel	$2,072,823	$2,670,191	$528,523	$5,707,453
Party/Charter Fees	$486,618	$480,234	$43,181	$1,079,662
ccess/Boat Launching	$157,525	$367,628	$138,158	$732,568
Equipment Rental	$477,333	$573,178	$58,258	$1,245,418
Bait and Ice	$4,779,342	$5,580,193	$1,176,148	$12,029,420
Total	$15,766,516	$20,789,453	$4,412,539	$44,599,598
Non-Local Residents				
Transportation	$829,774	$559,015	$2,561,019	$4,723,922
Food	$1,262,850	$681,729	$1,533,127	$4,669,476
Lodging	$496,792	$341,234	$1,691,898	$2,939,249
Boat Fuel	$573,469	$296,596	$802,274	$1,949,691
Party/Charter Fees	$338,476	$177,731	$588,697	$1,244,754
ccess/Boat Launching	$20,381	$28,234	$209,849	$323,180
Equipment Rental	$157,739	$88,450	$192,479	$571,273
Bait and Ice	$1,233,740	$520,688	$920,128	$2,849,477
Total	$4,913,221	$2,693,678	$8,499,472	$19,271,021
Non-residents of the State				
Transportation	$173,744	$213,444	$655,103	$1,404,333
Food	$214,382	$224,122	$310,621	$1,108,022
Lodging	$127,754	$133,003	$283,815	$678,705
Boat Fuel	$75,282	$75,583	$126,721	$359,954
Party/Charter Fees	$55,496	$49,476	$53,445	$180,706
ccess/Boat Launching	$7,283	$9,984	$34,637	$70,327
Equipment Rental	$23,815	$27,107	$43,472	$130,720
Bait and Ice	$134,509	$115,439	$130,388	$417,401
Total	$812,265	$848,159	$1,638,201	$4,350,169
Net Impact**				
Transportation	$4,604,790	$5,797,488	$4,386,375	$16,713,926
Food	$4,929,029	$5,492,329	$2,577,044	$15,964,962
Lodging	$1,364,351	$1,980,759	$2,540,435	$6,649,897
Boat Fuel	$2,721,574	$3,042,370	$1,457,518	$8,017,098
Party/Charter Fees	$880,590	$707,441	$685,323	$2,505,121
ccess/Boat Launching	$185,190	$405,846	$382,644	$1,126,075
Equipment Rental	$658,887	$688,735	$294,210	$1,947,411
Bait and Ice	$6,147,591	$6,216,320	$2,226,665	$15,296,298
Total	$21,492,002	$24,331,289	$14,550,212	$68,220,788

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-28. Total changes in personal income (in 2002 dollars) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 Abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 2 - Escapement Goal Management at the Management Unit Level											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group/Sector	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change
Local Residents												
Transportation	$759,400	-$2,841,872	-78.9%	$891,378	-$4,133,650	-82.3%	$31,565	-$1,138,687	-97.3%	$1,791,005	-$8,794,667	-83.1%
Food	$837,984	-$2,613,813	-75.7%	$1,035,084	-$3,551,394	-77.4%	$30,556	-$702,740	-95.8%	$2,159,450	-$8,028,013	-78.8%
Lodging	$40,169	-$699,636	-94.6%	$46,913	-$1,459,609	-96.9%	$1,743	-$562,980	-99.7%	$94,483	-$2,937,460	-96.9%
Boat Fuel	$497,875	-$1,574,949	-76.0%	$591,200	-$2,078,991	-77.9%	$21,204	-$507,319	-96.0%	$1,188,508	-$4,518,944	-79.2%
Party/Charter Fees	$147,941	-$338,677	-69.6%	$170,037	-$310,197	-64.6%	$6,559	-$36,621	-84.8%	$345,064	-$734,598	-68.0%
cess/Boat Launching	$0	-$157,525	-100.0%	$0	-$367,628	-100.0%	$0	-$138,158	-100.0%	$0	-$732,568	-100.0%
Equipment Rental	$135,909	-$341,424	-71.5%	$176,048	-$397,131	-69.3%	$5,174	-$53,085	-91.1%	$350,273	-$895,146	-71.9%
Bait and Ice	$1,190,251	-$3,589,091	-75.1%	$1,319,145	-$4,261,048	-76.4%	$53,900	-$1,122,249	-95.4%	$2,661,968	-$9,367,452	-77.9%
Total	$3,609,529	-$12,156,987	-77.1%	$4,229,805	-$16,559,648	-79.7%	$150,700	-$4,261,839	-96.6%	$8,590,751	-$36,008,847	-80.7%
Non-Local Residents												
Transportation	$181,532	-$648,241	-78.1%	$86,635	-$472,380	-84.5%	$25,874	-$2,535,145	-99.0%	$323,610	-$4,400,312	-93.1%
Food	$342,033	-$920,817	-72.9%	$171,774	-$509,956	-74.8%	$42,766	-$1,490,361	-97.2%	$666,217	-$4,003,259	-85.7%
Lodging	$106,003	-$390,788	-78.7%	$50,335	-$290,899	-85.2%	$15,770	-$1,676,128	-99.1%	$188,461	-$2,750,787	-93.6%
Boat Fuel	$155,645	-$417,825	-72.9%	$75,145	-$221,451	-74.7%	$22,730	-$779,544	-97.2%	$280,839	-$1,668,852	-85.6%
Party/Charter Fees	$89,119	-$249,357	-73.7%	$41,646	-$136,085	-76.6%	$13,549	-$575,148	-97.7%	$157,117	-$1,087,637	-87.4%
cess/Boat Launching	$0	-$20,381	-100.0%	$0	-$28,234	-100.0%	$0	-$209,849	-100.0%	$0	-$323,180	-100.0%
Equipment Rental	$42,971	-$114,768	-72.8%	$22,631	-$65,819	-74.4%	$5,609	-$186,870	-97.1%	$83,709	-$487,563	-85.3%
Bait and Ice	$360,536	-$873,204	-70.8%	$162,462	-$358,226	-68.8%	$55,985	-$864,144	-93.9%	$609,472	-$2,240,005	-78.6%
Total	$1,277,839	-$3,635,382	-74.0%	$610,628	-$2,083,050	-77.3%	$182,283	-$8,317,189	-97.9%	$2,309,426	-$16,961,595	-88.0%
Non-residents of the State												
Transportation	$11,654	-$162,090	-93.3%	$11,586	-$201,858	-94.6%	$2,213	-$652,890	-99.7%	$39,600	-$1,364,732	-97.2%
Food	$46,137	-$168,246	-78.5%	$48,271	-$175,852	-78.5%	$7,687	-$302,934	-97.5%	$136,293	-$971,729	-87.7%
Lodging	$23,236	-$104,518	-81.8%	$22,986	-$110,017	-82.7%	$4,606	-$279,208	-98.4%	$58,077	-$620,628	-91.4%
Boat Fuel	$16,247	-$59,035	-78.4%	$16,341	-$59,242	-78.4%	$3,162	-$123,559	-97.5%	$44,611	-$315,343	-87.6%
Party/Charter Fees	$14,851	-$40,646	-73.2%	$14,458	-$35,018	-70.8%	$3,009	-$50,436	-94.4%	$34,724	-$145,982	-80.8%
cess/Boat Launching	$0	-$7,283	-100.0%	$0	-$9,984	-100.0%	$0	-$34,637	-100.0%	$0	-$70,327	-100.0%
Equipment Rental	$4,558	-$19,257	-80.9%	$5,001	-$22,106	-81.6%	$793	-$42,679	-98.2%	$11,775	-$118,944	-91.0%
Bait and Ice	$36,113	-$98,396	-73.2%	$33,901	-$81,538	-70.6%	$7,473	-$122,915	-94.3%	$80,965	-$336,436	-80.6%
Total	$152,794	-$659,471	-81.2%	$152,543	-$695,615	-82.0%	$28,944	-$1,609,258	-98.2%	$406,047	-$3,944,122	-90.7%
Net Impact**												
Transportation	$193,186	-$810,332	-17.6%	$98,222	-$674,238	-11.6%	$28,087	-$3,188,035	-72.7%	$39,600	-$1,364,732	-8.2%
Food	$388,169	-$1,089,063	-22.1%	$220,044	-$685,807	-12.5%	$50,454	-$1,793,294	-69.6%	$136,293	-$971,729	-6.1%
Lodging	$129,239	-$495,307	-36.3%	$73,321	-$400,917	-20.2%	$20,376	-$1,955,336	-77.0%	$58,077	-$620,628	-9.3%
Boat Fuel	$171,892	-$476,859	-17.5%	$91,486	-$280,693	-9.2%	$25,892	-$903,103	-62.0%	$44,611	-$315,343	-3.9%
Party/Charter Fees	$103,970	-$290,002	-32.9%	$56,104	-$171,103	-24.2%	$16,558	-$625,584	-91.3%	$34,724	-$145,982	-5.8%
cess/Boat Launching	$0	-$27,665	-14.9%	$0	-$38,218	-9.4%	$0	-$244,486	-63.9%	$0	-$70,327	-6.2%
Equipment Rental	$47,528	-$134,026	-20.3%	$27,632	-$87,925	-12.8%	$6,402	-$229,549	-78.0%	$11,775	-$118,944	-6.1%
Bait and Ice	$396,649	-$971,600	-15.8%	$196,363	-$439,764	-7.1%	$63,457	-$987,059	-44.3%	$80,965	-$336,436	-2.2%
Total	$1,430,633	-$4,294,853	-20.0%	$763,171	-$2,778,665	-11.4%	$211,227	-$9,926,446	-68.2%	$406,047	-$3,944,122	-5.8%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-28. Total changes in personal income (in 2002 dollars) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 Abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 3 - Escapement Goal Management at the Population Level/Terminal Fisheries Only											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group/Sector	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Transportation	$430,246	-$3,171,026	-88.1%	$891,399	-$4,133,630	-82.3%	$12,600	-$1,157,653	-98.9%	$1,398,065	-$9,187,607	-86.8%
Food	$474,769	-$2,977,028	-86.2%	$1,035,108	-$3,551,370	-77.4%	$12,197	-$721,099	-98.3%	$1,685,674	-$8,501,788	-83.5%
Lodging	$22,758	-$717,047	-96.9%	$46,914	-$1,459,608	-96.9%	$696	-$564,027	-99.9%	$73,754	-$2,958,189	-97.6%
Boat Fuel	$282,076	-$1,790,747	-86.4%	$591,214	-$2,078,977	-77.9%	$8,464	-$520,059	-98.4%	$927,754	-$4,779,699	-83.7%
Party/Charter Fees	$83,817	-$402,801	-82.8%	$170,041	-$310,193	-64.6%	$2,618	-$40,563	-93.9%	$269,358	-$810,304	-75.1%
cess/Boat Launching	$0	-$157,525	-100.0%	$0	-$367,628	-100.0%	$0	-$138,158	-100.0%	$0	-$732,568	-100.0%
Equipment Rental	$77,000	-$400,332	-83.9%	$176,052	-$397,127	-69.3%	$2,065	-$56,193	-96.5%	$273,424	-$971,994	-78.0%
Bait and Ice	$674,349	-$4,104,993	-85.9%	$1,319,175	-$4,261,018	-76.4%	$21,515	-$1,154,634	-98.2%	$2,077,942	-$9,951,478	-82.7%
Total	$2,045,016	-$13,721,500	-87.0%	$4,229,903	-$16,559,549	-79.7%	$60,154	-$4,352,386	-98.6%	$6,705,972	-$37,893,626	-85.0%
Non-Local Residents												
Transportation	$102,848	-$726,926	-87.6%	$86,635	-$472,380	-84.5%	$10,323	-$2,550,696	-99.6%	$215,781	-$4,508,141	-95.4%
Food	$193,780	-$1,069,070	-84.7%	$171,774	-$509,956	-74.8%	$17,063	-$1,516,064	-98.9%	$444,229	-$4,225,248	-90.5%
Lodging	$60,057	-$436,735	-87.9%	$50,335	-$290,899	-85.2%	$6,292	-$1,685,606	-99.6%	$125,665	-$2,813,584	-95.7%
Boat Fuel	$88,181	-$485,288	-84.6%	$75,145	-$221,451	-74.7%	$9,069	-$793,205	-98.9%	$187,262	-$1,762,429	-90.4%
Party/Charter Fees	$50,491	-$287,985	-85.1%	$41,646	-$136,085	-76.6%	$5,406	-$583,291	-99.1%	$104,764	-$1,139,989	-91.6%
cess/Boat Launching	$0	-$20,381	-100.0%	$0	-$28,234	-100.0%	$0	-$209,849	-100.0%	$0	-$323,180	-100.0%
Equipment Rental	$24,345	-$133,394	-84.6%	$22,631	-$65,819	-74.4%	$2,238	-$190,241	-98.8%	$55,817	-$515,456	-90.2%
Bait and Ice	$204,263	-$1,029,477	-83.4%	$162,462	-$358,226	-68.8%	$22,337	-$897,791	-97.6%	$406,392	-$2,443,086	-85.7%
Total	$723,965	-$4,189,255	-85.3%	$610,628	-$2,083,050	-77.3%	$72,728	-$8,426,744	-99.1%	$1,539,908	-$17,731,113	-92.0%
Non-residents of the State												
Transportation	$6,603	-$167,141	-96.2%	$11,586	-$201,858	-94.6%	$882	-$654,221	-99.9%	$29,049	-$1,375,284	-97.9%
Food	$26,141	-$188,242	-87.8%	$48,271	-$175,852	-78.5%	$3,064	-$307,557	-99.0%	$99,977	-$1,008,045	-91.0%
Lodging	$13,165	-$114,589	-89.7%	$22,986	-$110,017	-82.7%	$1,836	-$281,978	-99.4%	$42,602	-$636,103	-93.7%
Boat Fuel	$9,205	-$66,076	-87.8%	$16,341	-$59,242	-78.4%	$1,260	-$125,461	-99.0%	$32,725	-$327,230	-90.9%
Party/Charter Fees	$8,414	-$47,082	-84.8%	$14,458	-$35,018	-70.8%	$1,199	-$52,245	-97.8%	$25,472	-$155,234	-85.9%
cess/Boat Launching	$0	-$7,283	-100.0%	$0	-$9,984	-100.0%	$0	-$34,637	-100.0%	$0	-$70,327	-100.0%
Equipment Rental	$2,582	-$21,233	-89.2%	$5,001	-$22,106	-81.6%	$316	-$43,156	-99.3%	$8,638	-$122,082	-93.4%
Bait and Ice	$20,461	-$114,048	-84.8%	$33,901	-$81,538	-70.6%	$2,979	-$127,409	-97.7%	$59,392	-$358,009	-85.8%
Total	$86,571	-$725,694	-89.3%	$152,543	-$695,615	-82.0%	$11,537	-$1,626,664	-99.3%	$297,855	-$4,052,314	-93.2%
Net Impact**												
Transportation	$109,451	-$894,067	-19.4%	$98,222	-$674,238	-11.6%	$11,206	-$3,204,917	-73.1%	$29,049	-$1,375,284	-8.2%
Food	$219,921	-$1,257,312	-25.5%	$220,044	-$685,807	-12.5%	$20,127	-$1,823,621	-70.8%	$99,977	-$1,008,045	-6.3%
Lodging	$73,222	-$551,324	-40.4%	$73,321	-$400,917	-20.2%	$8,128	-$1,967,584	-77.5%	$42,602	-$636,103	-9.6%
Boat Fuel	$97,387	-$551,364	-20.3%	$91,486	-$280,693	-9.2%	$10,329	-$918,666	-63.0%	$32,725	-$327,230	-4.1%
Party/Charter Fees	$58,905	-$335,067	-38.1%	$56,104	-$171,103	-24.2%	$6,605	-$635,537	-92.7%	$25,472	-$155,234	-6.2%
cess/Boat Launching	$0	-$27,665	-14.9%	$0	-$38,218	-9.4%	$0	-$244,486	-63.9%	$0	-$70,327	-6.2%
Equipment Rental	$26,928	-$154,626	-23.5%	$27,632	-$87,925	-12.8%	$2,554	-$233,397	-79.3%	$8,638	-$122,082	-6.3%
Bait and Ice	$224,724	-$1,143,524	-18.6%	$196,363	-$439,764	-7.1%	$25,316	-$1,025,200	-46.0%	$59,392	-$358,009	-2.3%
Total	$810,537	-$4,914,949	-22.9%	$763,171	-$2,778,665	-11.4%	$84,266	-$10,053,407	-69.1%	$297,855	-$4,052,314	-5.9%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

Table D-28. Total changes in personal income (in 2002 dollars) caused by changes in sport fishing trips under the project alternatives.
Scenario B: 2003 Abundance with maximum Canadian/Alaskan Pacific Salmon Treaty fisheries, continued.

	Alternative 4 - No Fishing											
	North Puget Sound			SPS/SHC*			SJF/NHC*			State		
Angler Group/Sector	Number	Change from Baseline	% Change	Number	Change from Baseline	% Change	Number		Change from Baseline (%)	Number	Change from Baseline	% Change
Local Residents												
Transportation	$13,760	-$3,587,513	-99.6%	$18,649	-$5,006,380	-99.6%	$489	-$1,169,763	-100.0%	$34,869	-$10,550,803	-99.7%
Food	$15,184	-$3,436,613	-99.6%	$21,655	-$4,564,822	-99.5%	$473	-$732,823	-99.9%	$42,042	-$10,145,421	-99.6%
Lodging	$728	-$739,077	-99.9%	$981	-$1,505,540	-99.9%	$27	-$564,695	-100.0%	$1,839	-$3,030,104	-99.9%
Boat Fuel	$9,021	-$2,063,802	-99.6%	$12,369	-$2,657,822	-99.5%	$329	-$528,194	-99.9%	$23,139	-$5,684,314	-99.6%
Party/Charter Fees	$2,681	-$483,937	-99.4%	$3,557	-$476,677	-99.3%	$102	-$43,079	-99.8%	$6,718	-$1,072,944	-99.4%
cess/Boat Launching	$0	-$157,525	-100.0%	$0	-$367,628	-100.0%	$0	-$138,158	-100.0%	$0	-$732,568	-100.0%
Equipment Rental	$2,463	-$474,870	-99.5%	$3,683	-$569,495	-99.4%	$80	-$58,178	-99.9%	$6,819	-$1,238,599	-99.5%
Bait and Ice	$21,567	-$4,757,776	-99.5%	$27,598	-$5,552,595	-99.5%	$835	-$1,175,313	-99.9%	$51,825	-$11,977,595	-99.6%
Total	$65,402	-$15,701,114	-99.6%	$88,494	-$20,700,959	-99.6%	$2,335	-$4,410,204	-99.9%	$167,251	-$44,432,347	-99.6%
Non-Local Residents												
Transportation	$3,292	-$826,481	-99.6%	$1,811	-$557,205	-99.7%	$399	-$2,560,620	-100.0%	$6,023	-$4,717,899	-99.9%
Food	$6,203	-$1,256,647	-99.5%	$3,590	-$678,139	-99.5%	$660	-$1,532,467	-100.0%	$12,399	-$4,657,077	-99.7%
Lodging	$1,923	-$494,869	-99.6%	$1,052	-$340,182	-99.7%	$243	-$1,691,654	-100.0%	$3,508	-$2,935,741	-99.9%
Boat Fuel	$2,823	-$570,646	-99.5%	$1,571	-$295,025	-99.5%	$351	-$801,923	-100.0%	$5,227	-$1,944,464	-99.7%
Party/Charter Fees	$1,616	-$336,859	-99.5%	$870	-$176,861	-99.5%	$209	-$588,488	-100.0%	$2,924	-$1,241,829	-99.8%
cess/Boat Launching	$0	-$20,381	-100.0%	$0	-$28,234	-100.0%	$0	-$209,849	-100.0%	$0	-$323,180	-100.0%
Equipment Rental	$779	-$156,960	-99.5%	$473	-$87,977	-99.5%	$87	-$192,392	-100.0%	$1,558	-$569,715	-99.7%
Bait and Ice	$6,539	-$1,227,201	-99.5%	$3,395	-$517,292	-99.3%	$864	-$919,264	-99.9%	$11,343	-$2,838,134	-99.6%
Total	$23,176	-$4,890,045	-99.5%	$12,762	-$2,680,915	-99.5%	$2,814	-$8,496,658	-100.0%	$42,982	-$19,228,039	-99.8%
Non-residents of the State												
Transportation	$213	-$173,531	-99.9%	$244	-$213,200	-99.9%	$34	-$655,070	-100.0%	$758	-$1,403,575	-99.9%
Food	$843	-$213,540	-99.6%	$1,017	-$223,106	-99.5%	$117	-$310,504	-100.0%	$2,609	-$1,105,414	-99.8%
Lodging	$424	-$127,329	-99.7%	$484	-$132,519	-99.6%	$70	-$283,745	-100.0%	$1,112	-$677,593	-99.8%
Boat Fuel	$297	-$74,985	-99.6%	$344	-$75,239	-99.5%	$48	-$126,673	-100.0%	$854	-$359,100	-99.8%
Party/Charter Fees	$271	-$55,225	-99.5%	$305	-$49,171	-99.4%	$46	-$53,399	-99.9%	$665	-$180,041	-99.6%
cess/Boat Launching	$0	-$7,283	-100.0%	$0	-$9,984	-100.0%	$0	-$34,637	-100.0%	$0	-$70,327	-100.0%
Equipment Rental	$83	-$23,732	-99.7%	$105	-$27,002	-99.6%	$12	-$43,460	-100.0%	$225	-$130,494	-99.8%
Bait and Ice	$660	-$133,849	-99.5%	$714	-$114,725	-99.4%	$113	-$130,275	-99.9%	$1,550	-$415,851	-99.6%
Total	$2,791	-$809,474	-99.7%	$3,214	-$844,945	-99.6%	$439	-$1,637,762	-100.0%	$7,773	-$4,342,396	-99.8%
Net Impact**												
Transportation	$3,505	-$1,000,012	-21.7%	$2,055	-$770,405	-13.3%	$433	-$3,215,690	-73.3%	$758	-$1,403,575	-8.4%
Food	$7,046	-$1,470,186	-29.8%	$4,607	-$901,245	-16.4%	$777	-$1,842,971	-71.5%	$2,609	-$1,105,414	-6.9%
Lodging	$2,347	-$622,199	-45.6%	$1,536	-$472,701	-23.9%	$313	-$1,975,399	-77.8%	$1,112	-$677,593	-10.2%
Boat Fuel	$3,120	-$645,631	-23.7%	$1,915	-$370,265	-12.2%	$399	-$928,596	-63.7%	$854	-$359,100	-4.5%
Party/Charter Fees	$1,888	-$392,084	-44.5%	$1,175	-$226,032	-32.0%	$255	-$641,887	-93.7%	$665	-$180,041	-7.2%
cess/Boat Launching	$0	-$27,665	-14.9%	$0	-$38,218	-9.4%	$0	-$244,486	-63.9%	$0	-$70,327	-6.2%
Equipment Rental	$863	-$180,691	-27.4%	$578	-$114,978	-16.7%	$99	-$235,853	-80.2%	$225	-$130,494	-6.7%
Bait and Ice	$7,199	-$1,361,050	-22.1%	$4,110	-$632,017	-10.2%	$978	-$1,049,538	-47.1%	$1,550	-$415,851	-2.7%
Total	$25,967	-$5,699,519	-26.5%	$15,976	-$3,525,860	-14.5%	$3,253	-$10,134,420	-69.7%	$7,773	-$4,342,396	-6.4%

* SPS/SHC = South Puget Sound/South Hood Canal; SJF/NHC = Strait of Juan de Fuca/North Hood Canal.

** For Puget Sound regions, the net impact represents effects caused by changes in non-local and non-resident spending relative to baseline spending.
For Washington, the net impact represents effects caused by changes in non-resident spending relative to baseline spending.
The baseline includes local, non-local, and non-resident spending effects.

References

Gentner, B., M. Price, S. Steinbeck. 2001. Marine angler expenditures in the Pacific Coast Region, 2000. U.S. Department of Commerce. National Marine Fisheries Service. NOAA Technical Memorandum NMFS-F/SPO-49. Silver Springs, MD. November 2001.

ICF Technology Incorporated. 1988. Economic impacts and net economic values associated with non-Indian salmon and sturgeon fisheries. Prepared for the State of Washington Department of Community Development, Olympia, WA. Redmond, WA.

McNair, Douglas. The William Douglas Company. January 2003. Personal communication with Tom Wegge, TCW Economics (one of the NEPA EIS authors), concerning the distribution of sport fishing trips in Puget Sound by mode of fishing.

Minnesota IMPLAN Group, Inc. 2002. IMPLAN database for Washington state and counties. Stillwater, MN.

National Marine Fisheries Service. 2002. Draft programmatic environmental impact statement for Pacific salmon fisheries management off the coasts of Southeast Alaska, Washington, Oregon, and California, and in the Columbia River Basin. Seattle, WA.

Olsen, D., J. Richards, R.D. Scott. 1991. Existence and sport values for doubling the size of Columbia River Basin salmon and steelhead runs. Rivers, volume 1, number 1. Pages 44-56.

Pattillo, Pat. Washington Department of Fish and Wildlife. December 20, 2003. Personal communication (telephone conversation) with Tom Wegge, TCW Economics (one of the NEPA EIS authors) concerning modes of sport fishing in Puget Sound.

The Research Group. 1991. Oregon angler survey and economic study, final report. Prepared for the Oregon Department of Fish and Wildlife. Corvallis, OR.

ATTACHMENT A

Background Data for the Affected Environment

Table D.A-1. Ex-vessel value of salmon landed in Puget Sound ports between 1991 and 1998 (in thousands of nominal dollars).

Major Port/County	1991	1992	1993	1994	1995	1996	1997	1998	Annual Average
Blaine	$2,382	$2,021	$2,898	$4,637	$960	$725	$1,595	$1,036	$2,031
Bellingham	$8,668	$4,148	$7,507	$8,051	$2,805	$1,626	$5,417	$2,811	$5,129
Whatcom County	$11,050	$6,647	$10,924	$13,192	$3,862	$2,351	$7,011	$3,847	$7,360
Friday Harbor	$260	$369	$691	$146	$35	--[1]	$3	$4	$215
San Juan County	$260	$369	$691	$146	$35	--[1]	$6	$6	$216
Anacortes	$674	$281	$1,480	$891	$662	$236	$336	$25	$573
LaConner	$3,298	$1,535	$1,251	$720	$84	$169	$361	$264	$960
Skagit County	$3,972	$1,816	$2,730	$1,611	$746	$405	$697	$290	$1,533
Everett	$1,206	$1,312	$2,100	$3,301	$708	$533	$1,670	$933	$1,470
Snohomish County	$1,206	$1,312	$2,100	$3,301	$708	$533	$1,670	$933	$1,470
Seattle	$4,657	$3,466	$2,195	$1,726	$1,186	$855	$1,136	$716	$1,992
King County	$4,657	$3,466	$2,195	$1,726	$1,186	$855	$1,136	$716	$1,992
Tacoma	$275	$946	$432	$689	$538	$409	$210	$516	$501
Pierce County	$275	$946	$432	$689	$538	$409	$210	$516	$501
Olympia	$208	$115	$118	$212	$114	$86	$26	$45	$115
Thurston County	$208	$115	$118	$212	$114	$86	$26	$45	$115
Shelton	$373	$297	$335	$602	$670	$579	$421	$828	$513
Mason County	$373	$297	$335	$602	$670	$579	$421	$828	$513
Port Townsend	$88	$73	$211	$112	$51	$84	$202	$179	$125
Jefferson County	$346	$299	$413	$898	$190	$84	$202	$586	$377
Poulsbo	$12	$24	$82	$22	$17	$43	$22	$36	$32
Bremerton	$230	--[1]	--[1]	--[1]	--[1]	--[1]	$4	--[1]	$167
Kitsap County	$241	$282	$248	$281	$113	$146	$26	$36	$171
Port Angeles	$1,233	$535	$1,209	$1,631	$636	$332	$218	$572	$795
Neah Bay	$1,592	$1,524	$1,196	$285	$418	$673	--[1]	$468	$468
Clallam County	$3,767	$2,982	$2,687	$2,053	$1,194	$1,129	$598	$1,131	$1,942
REGIONAL TOTAL	$26,355	$18,531	$22,873	$24,711	$9,356	$6,577	$12,003	$8,934	$16,190

Source: Pacific Fisheries Management Council, Community Descriptions (1999).

Not reported for confidentiality reasons (fewer than 3 buyers).

Table D.A-2. Annual average catch (pounds landed) and ex-vessel value of salmon harvested in Puget Sound from 1991 through 2000 (in thousands of pounds or thousands of nominal dollars).

	Species											
	Chinook		Chum		Coho		Pink		Sockeye		Total Pounds Landed	Total Ex-Vessel Value
Year	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value		
1991	2,008.3	$2,375.1	8,845.4	$4,776.6	3,446.8	$2,447.2	12,035.8	$2,407.2	10,248.1	$12,400.1	36,584.5	$24,406.2
1992	1,646.0	$1,700.8	12,247.8	$5,634.0	2,197.7	$1,890.1	0.7	$0.2	3,410.4	$6,411.6	19,502.7	$15,636.6
1993	1,145.7	$996.4	10,059.4	$6,236.8	1,057.4	$676.7	7,437.6	$1,190.0	15,099.2	$13,589.2	34,799.2	$22,689.2
1994	1,118.9	$991.7	11,818.1	$3,190.9	2,131.9	$1,449.7	0.9	$0.2	10,317.6	$15,889.1	25,387.4	$21,521.6
1995	923.4	$572.1	6,556.8	$1,901.5	1,340.5	$630.0	9,477.2	$1,611.1	2,323.6	$2,672.0	20,621.4	$7,386.8
1996	963.2	$484.2	7,073.9	$1,202.6	760.4	$235.7	0.2	$0.0	1,887.8	$2,831.7	10,685.5	$4,754.3
1997	1,049.3	$540.8	3,684.4	$1,215.9	793.6	$428.6	7,032.2	$1,265.8	7,674.1	$8,211.3	20,233.7	$11,662.3
1998	692.2	$357.1	7,467.5	$1,120.1	778.7	$303.7	3.3	$2.2	3,014.9	$4,401.8	11,956.6	$6,184.8
1999	1,121.8	$617.6	2,017.5	$605.2	505.4	$227.4	169.3	$25.4	114.9	$141.3	3,928.9	$1,617.0
2000	980.5	$684.6	2,454.5	$883.6	1,699.7	$730.9	1.3	$1.2	3,052.8	$3,571.7	8,188.8	$5,872.0
Annual Average	1,164.9	$932.0	7,222.5	$2,676.7	1,471.2	$902.0	3,615.9	$650.3	5,714.3	$7,012.0	19,188.9	$12,173.1

Source: Washington Department of Fish and Wildlife, License, and Fish Ticket database (personal communication with Doug McNair, The William Douglas Company, December 20, 2002).

Table D.A-3. Annual average commercial (tribal and non-tribal) harvest (pounds landed)[1] of salmon in marine waters of Puget Sound, by marine catch area and species (1991 through 2000).

Marine Catch Areas	Chinook		Chum		Coho		Pink		Sockeye		All Species	
	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch
Area 4	31,545	3%	509	0%	23,544	2%	3,565	0%	6,693	0%	65,856	0%
Area 5	114,607	10%	298,755	4%	52,591	4%	36,360	1%	258,621	5%	760,934	4%
Area 6	33,315	3%	18,312	0%	22,146	2%	3,077	0%	19,725	0%	96,575	0%
Area 7	499,652	44%	831,927	12%	316,168	21%	3,343,213	93%	5,585,956	94%	10,576,916	55%
Area 8	128,526	11%	986,886	14%	330,982	22%	225,246	6%	213	0%	1,671,853	9%
Area 9	451	0%	12,990	0%	41,820	3%	208	0%	11	0%	55,480	0%
Area 10	175,390	16%	1,170,576	16%	232,265	16%	1,179	0%	69,900	1%	1,649,310	9%
Area 11	4,446	0%	594.769	8%	49,090	3%	38	0%	0	0%	648,343	3%
Area 12	42,063	4%	3,124,520	44%	45,415	3%	367	0%	0	0%	3,212,365	17%
Area 13	98,867	9%	142,251	2%	357,652	24%	106	0%	0	0%	598,876	3%
All Marine	1,128,862	100%	7,181,495	100%	1,471,673	100%	3,613,359	100%	5,941,119	100%	19,336,508	100%

Source: Washington Department of Fish and Wildlife, License, and Fish Ticket database (personal communication with Doug McNair, The William Douglas Company, December 20, 2002).

Note: Conversion from number of fish to pound landed is based on average weight over the period of 1996 through 2000.

Table D.A-4. Average annual commercial (tribal and non-tribal) harvest (pounds landed) of salmon in freshwater areas of Puget Sound, by catch area and species (1991 through 2000).

Freshwater Catch Areas	Chinook		Chum		Coho		Pink		Sockeye		All Species	
	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch	Average Annual Catch	% of Total Species Catch
Nooksack-Samish	27,823	10%	103,416	16%	89,360	20%	3,152	2%	300	31%	224,051	14%
Skagit	19,888	7%	216,547	34%	35,496	8%	174,540	96%	645	66%	447,116	29%
Stillaguamish	139	0%	34,582	5%	3,120	1%	2,220	1%	-	0%	40,061	2%
Snohomish	17	0%	11	0%	192	0%	-	0%	-	0%	220	0%
Lk. Washington	0	0%	-	0%	56	0%	-	0%	-	0%	56	0%
Green-Duwamish	45,431	16%	31,597	5%	136,880	30%	32	0%	10	1%	213,950	14%
Puyallup	47,195	15%	11,631	2%	157,888	35%	2,448	1%	5	1%	214,167	14%
Nisqually	94,047	33%	140,010	22%	11,632	3%	40	0%	5	1%	245,734	16%
S. Puget Sound	37,716	13%	14,841	2%	1,320	0%	12	0%	-	0%	53,879	3%
Mid-Hood Canal	-	0%	64	0%	1,248	0%	-	0%	-	0%	1,312	0%
Skokomish	17,191	6%	91,057	14%	2,632	1%	4	0%	0	0%	110,884	7%
JDF Strait	1,096	0%	161	0%	9,672	2%	0	0%	0	0%	10,929	1%
All Freshwater	285,533	100%	643,917	100%	449,496	100%	182,448	100%	965	100%	1,562,359	100%

Source: Washington Department of Fish and Wildlife, License and Fish Ticket database (personal communication with Doug McNair, The William Douglas Company, December 20, 2002.

Note: Conversion from number of fish to pound landed is based on average weight over the period of 1996 through 2000.

Table D.A-5. Number of licenses issued for commercial salmon fishing in Puget Sound between 1991 and 2000. [1]

Year	Residents	Non-Residents	Total Issued[2]
1991	1,423	123	1,512
1992	1,400	114	1,495
1993	1,363	110	1,451
1994	1,318	91	1,398
1995	1,240	74	1,312
1996	1,177	58	1,233
1997	1,161	98	1,215
1998	1,093	186	1,147
1999	946	41	987
2000	946	42	987
Annual Average	1,207	94	1,274

Source: Washington Department of Fish and Wildlife, License and Fish Ticket database (personal communication with Lee Hoines, WDFW, January 17, 2002).

[1] Excludes licenses issued for salmon charters and guides.

[2] Total number of licenses issued does not equal the sum of resident and non-resident licenses issued.

Table D.A-6. Distribution of 2001 commercial non-tribal harvest (pounds landed) of salmon by marine catch area and commercial fishing permit holder region of residence.

Catch Area	Region where commercial fishing license holder resides				TOTAL
	North Puget Sound	South Puget Sound/Hood Canal	Strait of Juan de Fuca/North Hood Canal	Other Washington	
Marine Catch Area 4	0		0	0	0
Marine Catch Area 5	0	0	0	0	0
Marine Catch Area 6	5,709	7,002	25,573	0	38,284
Marine Catch Area 7	2,259,518	484,058	5,381	12,633	2,761,590
Marine Catch Area 8	744,015	555,855	3,802	5,186	1,308,858
Marine Catch Area 9	0	1,992	13,895	0	15,887
Marine Catch Area 10	980,048	758,828	88,457	33,299	1,860,632
Marine Catch Area 11	370,964	1,411,350	0	16,826	1,799,140
Marine Catch Area 12	1,168,448	540,255	289,705	125,042	2,123,450
Marine Catch Area 13	0	0	0	0	0
TOTAL	5,528,702	3,759,340	426,813	192,986	9,907,841

Source: Washington Department of Fish and Wildlife, License and Fish Ticket database (personal communication with Lee Hoines, WDFW, December 18, 2002).

Table D.A-7. Distribution of 2001 commercial non-tribal harvest (pounds landed) of salmon by marine catch area and type of gear used.

Catch Area	Pounds Landed by Gear Type			Total Pounds Landed
	Gillnet	Purse Seine	Reef Net	
Marine Catch Area 4	0	0	0	0
Marine Catch Area 5	0	0	0	0
Marine Catch Area 6	38,889	0	0	38,889
Marine Catch Area 7	928,955	1,723,564	123,921	2,776,440
Marine Catch Area 8	71,362	1,237,496	0	1,308,858
Marine Catch Area 9	15,887	0	0	15,887
Marine Catch Area 10	247,676	1,612,928	0	1,860,604
Marine Catch Area 11	42,307	1,880,291	0	1,922,598
Marine Catch Area 12	136,551	1,866,949	0	2,003,500
Marine Catch Area 13	0	0	0	0
TOTAL	1,481,627	8,321,228	123,921	9,926,776

Source: Washington Department of Fish and Wildlife, License and Fish Ticket database (personal communication with Lee Hoines, WDFW, December 18, 2002).

Table D.A-8. Annual average catch (in thousands of pounds landed) and ex-vessel value (in thousands of nominal dollars) of salmon harvested by tribes in Puget Sound (1991 through 2000).

	Species												Total Pounds Landed	Total Ex-Vessel Value
	Chinook		Chum		Coho		Pink		Sockeye		Steelhead			
Year	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value	Pounds Landed	Ex-Vessel Value		
1991	1277.0	$1,545.2	5103.2	$2,398.5	2271.5	$1,771.8	6940.8	$1,527.0	4516.1	$5,238.7	63.4	$67.2	20,172.0	$12,548.3
1992	904.8	$1,122.0	7395.4	$3,327.9	1445.2	$1,300.7	0.388	$0.1	1651.7	$3,138.2	87.4	$83.9	11,484.9	$8,972.8
1993	687.9	$763.6	4424.1	$2,300.5	682.3	$484.4	4297.7	$644.7	6990.6	$6,291.5	32.5	$30.6	17,115.1	$10,515.3
1994	765.1	$749.8	7340.3	$1,908.5	2246.8	$1,572.8	0.776	$0.2	5062.7	$7,492.8	36.47	$29.2	15,452.1	$11,753.2
1995	759.2	$675.7	3291.1	$888.6	1498.3	$824.1	3744.8	$636.6	1347.2	$741.0	39.1	$32.5	10,679.7	$3,798.4
1996	759.1	$736.3	1826.2	$383.5	729.7	$357.6	0.125	$0.0	1641.2	$787.8	27.2	$20.1	4,983.5	$2,285.3
1997	740.1	$577.3	1789.1	$518.8	591.6	$349.0	3484.4	$522.7	3475.2	$3,683.7	13.9	$10.0	10,094.3	$5,661.5
1998	511.7	$378.7	1283.9	$256.8	826.9	$430.0	2.1	$0.5	1769.4	$2,601.0	34.6	$25.6	4,428.6	$3,692.5
1999	847.6	$712.0	1022.1	$327.1	550.5	$346.8	187.1	$29.9	119.8	$146.2	13.3	$10.1	2,740.4	$1,572.1
2000	762.1	$632.5	937.8	$384.5	2097.4	$1,027.7	1.76	$0.4	1732.1	$2,026.6	17.7	$14.9	5,548.9	$4,086.6
Annual Average	801.5	$789.3	3,441.3	$1,269.5	1,294.0	$846.5	1,866.0	$336.2	2,830.6	$3,214.7	36.6	$32.4	10,270.0	$6,488.6

Source: Northwest Indian Fisheries Commission, license and fish ticket database (personal communication with Phil Meyer, Meyer Resources, Inc., December 17, 2002).

Table D.A-9. Distribution of tribal commercial harvest (pounds landed) of salmon by marine catch area in 2001.

Catch Area	Tribal Location			TOTAL
	North Puget Sound	South Puget Sound/Hood Canal	Strait of Juan de Fuca/ North Hood Canal	
Marine Catch Area 4	0	0	212,548	212,548
Marine Catch Area 5	0	14,784	277,847	292,631
Marine Catch Area 6	0	0	3,460	3,460
Marine Catch Area 7	2,134,075	31,826	674	2,166,575
Marine Catch Area 8	2,911,493	0	0	2,911,493
Marine Catch Area 9	0	12,476	0	12,476
Marine Catch Area 10	166,161	745,233	0	911,394
Marine Catch Area 11	0	25,327	0	25,327
Marine Catch Area 12	0	3,017,884	617	3,018,501
Marine Catch Area 13	0	742,427	0	742,427
Freshwater	598,815	2,245,648	74,152	2,918,615
TOTAL	5,810,544	6,835,605	569,298	13,215,447

Source: Washington Department of Fish and Wildlife, License and Fish Ticket database (personal communication with Lee Hoines, WDFW, December 18, 2002).

Table D.A-10. Number of sport fishing trips for salmon and steelhead in Puget Sound, by marine catch area (1991 through 2000).

Marine Catch Area	Year										Annual Average
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
5	225,086	153,398	161,808	1,216	46,277	39,769	62,683	34,000	31,840	30,925	78,700
6	80,696	76,981	75,615	3,926	29,251	18,294	30,845	16,399	10,581	26,891	36,948
7	73,349	48,798	75,544	45,992	51,699	52,908	58,323	22,523	18,549	25,595	47,328
8	97,415	75,462	92,593	32,246	91,763	55,899	84,507	35,920	35,423	35,506	63,673
9	116,212	127,481	114,749	34,385	66,141	65,156	56,643	60,746	45,414	41,826	72,875
10	142,247	100,573	108,221	68,516	89,599	68,279	61,714	37,684	21,296	44,916	74,305
11	134,642	93,282	93,015	97,688	101,049	106,928	79,305	78,302	70,197	69,347	92,376
12	9,681	17,571	14,253	18,476	10,884	9,032	22,154	18,937	17,672	16,591	15,525
13	44,341	32,550	72,778	50,976	36,724	36,678	32,462	45,434	26,730	27,649	40,632
Grand Total	923,669	726,096	808,576	353,421	523,387	452,943	488,636	349,945	277,702	319,246	522,362

Source: Washington Department of Fish and Wildlife, Sport Fish database (personal communication with Terrie Manning, WDFW, December 17, 2002).

Table D.A-11. Annual sport catch of salmon by species in marine and freshwater areas of the Puget Sound (1991 through 2000).

Year	Chinook		Coho		Chum		Pink		Sockeye		Total Marine	Total Freshwater
	Marine	Freshwater	Marine	Freshwater	Marine	Freshwater	Marine	Freshwater	Marine	Freshwater		
1991	90,566	2,693	252,361	5,942	3,646	5,937	217	18,142	217	37	347,077	32,751
1992	97,733	3,292	189,372	14,256	8,712	6,747	193	12	193	40	296,203	24,347
1993	80,166	11,076	135,974	22,736	5,846	4,933	1,043	69,132	1,043	40	224,072	107,917
1994	48,286	3,351	31,801	10,319	9,936	N/A	41	10	41	13	90,105	13,693
1995	91,799	6,045	78,675	11,256	6,717	5,294	165	112,926	165	0	177,521	135,521
1996	91,799	3,968	78,675	11,756	6,717	12,488	165	0	60	69,988	177,416	98,200
1997	72,069	4,045	85,139	14,358	12,394	5,799	60	16,603	262	32	169,924	40,837
1998	60,425	9,505	138,571	15,304	5,836	10,025	262	0	90	20	205,184	25,854
1999	37,598	8,161	34,781	11,475	7,302	4,505	35,067	11,287	54	27	114,802	35,455
2000	29,893	5,740	71,965	21,847	3,689	3,708	59	79	100	28,597	105,706	59,971
Average	70,033	5,787	109,731	13,925	7,080	6,604	3,727	22,819	223	9,879	109,794	59,014

Source: Washington Department of Fish and Wildlife, Sport Fish database (personal communication with Terrie Manning, WDFW, December 17, 2002).

Table D.A-12. Proportion of 2001 sport catch of salmon in Puget Sound marine waters by angler county of origin.

Region/County	Marine Catch Areas									
	05	06	07	08	09	10	11	12	13	Grand Total
North Puget Sound										
Whatcom	1.11%	0.23%	35.16%	1.69%	1.46%	0.64%	0.12%	0.00%	0.00%	3.21%
Skagit	0.74%	2.47%	24.68%	3.97%	0.81%	0.20%	0.02%	0.07%	0.00%	2.68%
Snohomish	7.04%	1.93%	8.49%	68.62%	36.26%	17.54%	1.34%	3.05%	1.39%	19.98%
Island	0.49%	5.95%	2.72%	6.03%	16.60%	0.25%	0.10%	0.00%	0.00%	3.91%
San Juan	0.00%	0.00%	7.82%	0.05%	0.00%	0.00%	0.00%	0.22%	0.00%	0.56%
Subtotal	*9.38%*	*10.58%*	*78.87%*	*80.36%*	*55.13%*	*18.63%*	*1.59%*	*3.35%*	*1.39%*	30.35%
South Puget Sound/South Hood Canal										
King	20.08%	5.02%	5.88%	12.25%	19.92%	47.76%	37.13%	18.59%	5.99%	22.77%
Pierce	14.65%	2.70%	2.27%	1.07%	2.58%	3.13%	52.15%	16.58%	36.14%	14.98%
Thurston	5.93%	1.16%	0.78%	0.78%	0.42%	0.14%	1.02%	13.68%	39.07%	4.47%
Mason	2.65%	0.93%	0.33%	0.16%	0.37%	0.31%	0.15%	12.12%	8.15%	1.80%
Kitsap	8.04%	2.78%	0.44%	0.35%	8.72%	24.12%	4.29%	19.41%	1.39%	8.10%
Subtotal	*51.34%*	*12.59%*	*9.71%*	*14.60%*	*32.00%*	*75.46%*	*94.74%*	*80.37%*	*51.34%*	52.11%
Strait of Juan de Fuca/North Hood Canal										
Clallam	14.61%	59.15%	1.05%	0.32%	1.02%	0.20%	0.17%	0.74%	0.21%	6.16%
Jefferson	2.16%	8.49%	0.17%	0.03%	7.80%	0.08%	0.12%	5.06%	0.00%	2.29%
Subtotal	*16.77%*	*67.64%*	*1.22%*	*0.35%*	*8.82%*	*0.28%*	*0.30%*	*5.80%*	*0.21%*	8.46%
Other Washington	12.84%	3.71%	4.83%	1.82%	1.54%	2.43%	1.69%	6.99%	5.92%	4.80%
Outside Washington	9.67%	5.48%	5.38%	2.87%	2.51%	3.19%	1.69%	3.49%	1.74%	4.28%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Washington Department of Fish and Wildlife, Sport Fish database (personal communication with Doug McNair, The William Douglas Company, December 16, 2002).

ATTACHMENT B

Economic Factors for Commercial Salmon Fishing

Developed by The Research Group

The Research Group
P.O. Box 813
Corvallis, OR 97339

Voice (541) 758-1432 / Facsimile (541) 758-1455 / Email shannon_davis@class.orednet.org

MEMORANDUM

To: Tom Wegge
From: Hans Radtke and Shannon Davis
Date: September 18, 2003
Re: Economic Analysis Results for the Puget Sound Chinook Salmon Fishery Management Plan, Pertaining to Commercial Fisheries

This memorandum describes our updated commercial fishing economic analysis results for the referenced project. Below, we provide definitions, explain data sources, and give details about modeling methods. The model has been specified and calibrated to a Year 2002 one-year time period. The model has also been applied to all salmon species harvested in the management plan catch area during that one year time period. We have tried to anticipate the intermediate economic factors necessary to apply to management plan fisheries response effects. Please let us know if the form and format is convenient and sufficient for its application.

There are several tables attached to this memorandum. These tables and others are also contained in a computer file accompanying this memorandum. The printed tables are:

Table 1: Puget Sound Salmon Fisheries Volume by Gear and Disposition in 2002
Table 2: Average and Marginal Economic Impact Factors for Composite Product Forms by Species and Industry Component
Table 3: Economic Impact Factors by Product Forms and Industry Component
Table 4: Economic Contributions From Salmon Fisheries for Economic Regions and for the State
Table 5: Revenue Distributions for Non-Tribal Vessels That Harvest and Processors That Purchase Puget Sound Salmon in 2002
Figure 1: Landing Volume and Prices by Salmon Species for Puget Sound Salmon Fisheries in 1981 to 2002
Figure 2: Economic Contribution From Puget Sound Commercial Salmon Fisheries in 1981 to 2002

An appendix to this memorandum contains detailed information about landing and catch area assignments

Economic Impact Factors

The derived regional and state economic impact factors (coefficients and multipliers) are provided for making average and marginal impact calculations. The factors are used to calculate impacts measured by personal income, output,[1] and employment.[2] We have used the factors and 2002 landing data (Table 1) as an example to show our modeling results. The factors (for example average economic impacts per landed round pound) would only apply to other historical landing periods if adjustments are made for real dollars and species ex-vessel value. The ex-vessel value would both depend on converting to a real dollar year using an index such as the GDP Implicit Price Deflator, and also for the changing real value received for the salmon species. For example, there has been a lot of volatility for egg prices in recent years. Egg prices for the catch area salmon have gone from $7.26 in 2000, to $4.35 in 2001, and $3.33 in 2002 averaged over all species. There has been similar volatility in whole fish. It would have to be a stated assumption that the economic factors that are from a model calibrated to Year 2002 applies to future years.

The economic factors are provided for each salmon species and for sub-state economic regions for composite product forms (i.e. averaged over all product forms) and for special market product forms. For showing changes to the chinook and coho salmon fisheries, the factors are also provided for gear groups. The other salmon species from this catch area are landed with nets. The salmon fisheries singular product forms (Table 3) are: carcass sold fresh or frozen (approximately 94 percent of Puget Sound chinook catch area harvests are used for this product form), cured eggs for export (approximately 4 percent product form), and canned or smoked products (2 percent product form). The other species have different distribution. Unless there is specific reason to show economic impacts for different product forms, the composite factors in Table 2 should be used.

Factors are expressed for direct, indirect, and induced effects. The definition we are using for direct effect is payments for vessel crews, processing workers, net income to vessel owners/operators, and net income to processor owners. The definition for indirect effects has two sources. The first source (called indirect labor) is payments from first round spending by vessel provisioners, processor suppliers, etc. to labor. The second source (called indirect

1. Output impacts are sometimes of interest, but for policy decision making purposes, personal income and employment impacts are the more appropriate comparative statistics.
2. Employment is calculated as a full/part time equivalent (FTE). Employment can include the relationship between license permit holders plus anticipated crew members. However, permit holders should be viewed as potential participants, not actual participants. Some permit holders may only make a few landings per year. This participation can be viewed as social interest but it does not provide calculations of actual annual jobs that may be generated. For example, in Oregon there are presently 1,200 troll permit holders. Of these, only about 370 make any landings at all. And of those that make any landings, only about half of these generate more than about $30,000 per year in ex-vessel landings. Erroneously, we could describe the Oregon troll fishery as generating about 2,400 direct jobs (skipper and crew) with an additional amount for the "multiplier" effects. The social description is useful, but should not take the place of an economic description.

provisioners) is payments from second round spending for labor. The induced effects are payments from all other rounds of spending.

Chinook Salmon Fisheries User Groups

We did not find significant differences between non-treaty and treaty fisheries to justify user group specific factors. We reached this conclusion by reviewing ex-vessel prices paid to the user groups, reviewing vessel budgets with key representatives from tribal fishing groups, and talking to processor representatives. Prices averaged over seasons are about the same between the two user groups. Tribes have some early fishing seasons which fetched higher prices. However, lower prices received by tribal fisherman in later seasons tended to balance the effect. The tribal fishing group representatives agreed that the budgets generally patterned the harvesters that catch most of the tribal allocations. Processor representatives told us that salmon from the two user groups enter the same markets and have the same value added at the primary processing level.

Sub-State Catch Areas and Economic Regions

The mapping of Puget Sound management plan catch areas and the ports where the catch is landed is shown in an attached appendix. The ports are grouped into three sub-state regions: Northern Puget Sound, Southern Puget Sound, and Coastal Washington North. The regions' geographic boundaries in relation to city and county boundaries are also shown in the appendix. The boundaries were chosen in consideration of fishing industry labor markets, location of ports where deliveries are received and primary processing occurs, ports where there is a likeness in fleet and vessel profiles, and other considerations. Nearly all of the landings from the Puget Sound management plan catch areas are accounted for in the selected regions. However, some are delivered elsewhere in the State. For this reason, the sum of the economic impacts from the regions will not equal the economic impacts to the State. There is a net import of salmon to the selected regions. The plan's catch area harvests only represented about a third of the chinook salmon delivered in the region. Other harvest areas include the Pacific Ocean, deliveries hauled from the Columbia River, etc.

Harvest Data

Data for the analysis is from the WDFW fish ticket system and salmon buyers and processors personal interviews. Fish tickets issued for salmon harvests have a declaration for disposition of the salmon. Most are declared for commercial purposes, but a large portion from treaty fisheries are declared "take-home." According to WDFW data managers, most net caught, treaty salmon sold for their eggs are claimed as take-home for their final disposition. Take-home fish are assumed to provide the same impact as commercially sold fish. It is assumed that they are a substitute for other protein. The consumption of fish at home frees up funds to spend on other

similar items. Ceremonial and subsistence, illegally caught fish, etc. are disregarded in our economic impact modeling results. It was necessary to interview the primary processors to determine the market product forms for the catch area salmon.

Salmon landings are sometimes made head-on, gutted, and gilled, sometimes head-off and gutted, and other times in the whole (termed round). Salmon are generally delivered dressed in troll gear fisheries and in the round in net gear fisheries. Adjustments have been made in the modeling factors to always approximate the weight of fish in the round. Care needs to be used in making sure weight units for fish to be modeled are also in round pounds. The average weights per fish by species and the conversion factor between landed pounds and round pounds is shown in a table included in the computer file.

Modeling factors are also expressed in terms of finish product pounds. Finish pounds are the product weight after processing. For example, a fillet, skin-on product is about 55 percent recovery from net caught chinook salmon round pounds. Salmon generating eggs has about a seven to eight percent recovery weight on females. Assuming half the fish are males, the recovery is four percent. The amount of recovery in percent is referenced in tables as "yield."[3]

Ex-Vessel Prices

Example statewide landed prices for the catch area's harvests are $0.70 per round pound for net caught chinook and $1.02 for troll caught chinook. A processor uses both the fish flesh and its eggs. The price for a fish's weight assumes the egg value. The egg credit is generally $0.18 per round pound. This means that a fish round weight price is $0.52, plus the egg credit of $0.18, equals $0.70. As previously mentioned about a salmon's declared disposition, sometimes a buyer only purchases the eggs and the carcass remains with the seller. In this case, an example price for net caught chinook eggs is about $1.89 per egg pound. There is some variation in prices seasonally and for different ports. It was assumed the annual, statewide prices applied to all regions for showing modeling results.

Regional Economic Impact Modeling Methods

The 2000 IMPLAN database (latest version available) was used to construct a Fisheries Economic Assessment Model (FEAM) for the four geographic areas. The FEAM uses basic input/output relationships from IMPLAN. Custom fishing industry sectors are comprised of aggregated and disaggregated IMPLAN sectors. The input/output relationships for the custom sectors are then applied to spending patterns from the harvesting and processing components of

3. South Puget Sound eggs exceed the backward calculations of delivered carcasses at an 8% yield for 50% females [(304,134 + 384,961 + 15,907) * 0.08 * 0.50 = 28,200]. A total of 40,926 pounds of eggs were landed, therefore it would be expected at least 1.02 million round pounds of carcasses would be landed. There was no attempt to resolve this data discrepancy.

the fishing industry to show direct, indirect, and induced effects to local economies and the State. The FEAM has inputs of species landing weight, prices, product forms, and budgets for fishing industry businesses. Coefficients and multiplier factors based on landed weight were derived from FEAM outputs. The FEAM will generate total economic impact results, but the coefficients and multiplier factors can also be applied outside of the model for calculating economic impacts.

The factors can be used outside of the FEAM for calculating the regional economic impacts for the different management plans' harvest alternatives. Care must be taken to use average per unit impact factors to calculate total economic contribution and marginal per unit impact factors to calculate changes to fisheries. The ratio of the former to the latter is about 0.89 for income, employment, and output.

Modeling Results

Puget Sound catch area landings have decreased dramatically from the middle 1980's (Figure 1). Recent higher landings in 2001 and 2002 for chum salmon have reversed the total salmon volume declining trends. The other salmon species have stayed at lower levels. Ex-vessel prices have also declined during this period, due to large supplies of salmon in the marketplace. Significant proportions of these supplies are from farm origin.

Harvest data is available by vessel for non-Indian harvesters (Table 4). The revenue distribution shows 77 percent of these vessels sell less than $30,000 in harvested fish. The proportion of the revenue from Puget Sound salmon fisheries is greater than 80 percent for these vessels. While most of the vessels are in the lower revenue categories, they only harvest 22 percent of fish resources taken by all vessels that participate in the Puget Sound salmon fisheries. The lower revenue vessel categories harvest 44 percent of the Puget Sound salmon. Processors that purchase Puget Sound salmon from non-treaty and/or treaty fisheries have a similarly skewed distribution (Table 4).[4] Sixty-nine percent of the processors have total purchases less than $100,000, while they are only utilizing five percent of total purchases. The lower purchase category processors buy 12 percent of the Puget Sound salmon.

The regional and statewide economic impacts for Year 2002 salmon fisheries catch area harvests are shown in Table 5 and Figure 2. The Puget Sound management plan catch area's chinook fisheries at the state level contributed $2.4 million in personal income, $3.2 million in output, and about 83 jobs (FTE). Economic contributions from all salmon fisheries in 2002 were $25.9 million in personal income, $35.2 million in output, and 760 jobs (FTE). About 44 percent was in the south Puget Sound region, 43 percent in north Puget Sound, and 13 percent in coastal Washington north.

4. Processor codes that show purchases from only one vessel are excluded from the analysis. These processor codes represent "across the dock" sales from vessels directly to the public.

Appendix
Landing and Catch Area Assignments

The data analysis included aggregating ports-of-delivery to economic regions (port groups). The following table shows how individual ports were assigned:

Economic Regions (Port Groups)	Counties	Landing Locations	Nearby Harvest Data Statistical Area
Northern Puget Sound	Island, San Juan, Skagit, Snohomish, Whatcom	Anacortes, Bellingham Bay, Blaine, Deer Harbor, Friday Harbor, La Conner, Marietta, Point Roberts	WDFW 7, 8
Southern Puget Sound	King, Kitsap, Mason, Pierce, Thurston	Bremerton, Brinnon, Coupeville, Everett, Olympia, Poulsbo, Quilcene, Seattle, Shelton, Stanwood, Tacoma, Whidby Island	WDFW 9, 10, 11, 12, 13
Coastal Washington North	Clallam, Jefferson	Bay City, Copalis Beach, Hoh, Lapush, Moclips, Neah Bay, Port Angeles, Port Townsend, Queets, Sequim, Taholah	WDFW 4B, 5, 6

Landings from the following catch areas were used in the analysis. Only statistical areas with landings in 2002 are shown.

Nearby Economic Region	Statistical Area	Area Name	2002 Chinook Landings (round_pounds)
Coastal Washington North	4B	TATOOSH - SAIL ROCK	15,965
Coastal Washington North	5	CLALLAM BAY	18,087
Northern Puget Sound	7	SAN JAUN ISLANDS	6,295
Northern Puget Sound	77B	LOWER NOOKSACK RIVER	6,027
Northern Puget Sound	78C	LOWER SKAGIT RIVER	4,512
Northern Puget Sound	78D	UPPER SKAGIT RIVER	774
Northern Puget Sound	7A	POINT ROBERTS	28,729
Northern Puget Sound	7B	BELLINGHAM BAY	496,010
Northern Puget Sound	7C	SAMISH BAY	122,298
Northern Puget Sound	7D	LUMMI BAY	53
Northern Puget Sound	8	SKAGIT BAY	25
Northern Puget Sound	8A	PORT SUSAN - PORT GARDNER	825
Northern Puget Sound	8D	TULALIP BAY	68,352
Northern Puget Sound	9A	PORT GAMBLE	18
Southern Puget Sound	10	SEATTLE	381
Southern Puget Sound	10A	ELLIOTT BAY	24,104
Southern Puget Sound	10E	EAST KITSAP	61,600
Southern Puget Sound	10F	LAKE WASHINGTON SHIP CANAL	1,560
Southern Puget Sound	12A	QUILCENE - DABOB BAY	54
Southern Puget Sound	12B	CENTRAL HOOD CANAL	1,128
Southern Puget Sound	12C	LOWER HOOD CANAL	272,053
Southern Puget Sound	13	FOX ISLAND	2,064
Southern Puget Sound	13A	CARR INLET	13,324
Southern Puget Sound	13C	CHAMBERS CREEK ESTUARY	7,384
Southern Puget Sound	13D	CASE INLET - SQUAXIN ISLAND	44
Southern Puget Sound	13F	BUDD INLET	415
Southern Puget Sound	80B	GREEN - DUWAMISH	136,420
Southern Puget Sound	81B	PUYALLUP RIVER	72,928
Southern Puget Sound	82G	SKOKOMISH RIVER	34,783
Southern Puget Sound	83C	MINTER CREEK	560
Southern Puget Sound	83D	NISQUALLY RIVER	95,644
Southern Puget Sound	83F	MCALISTER CREEK	4,335
Total			1,496,751

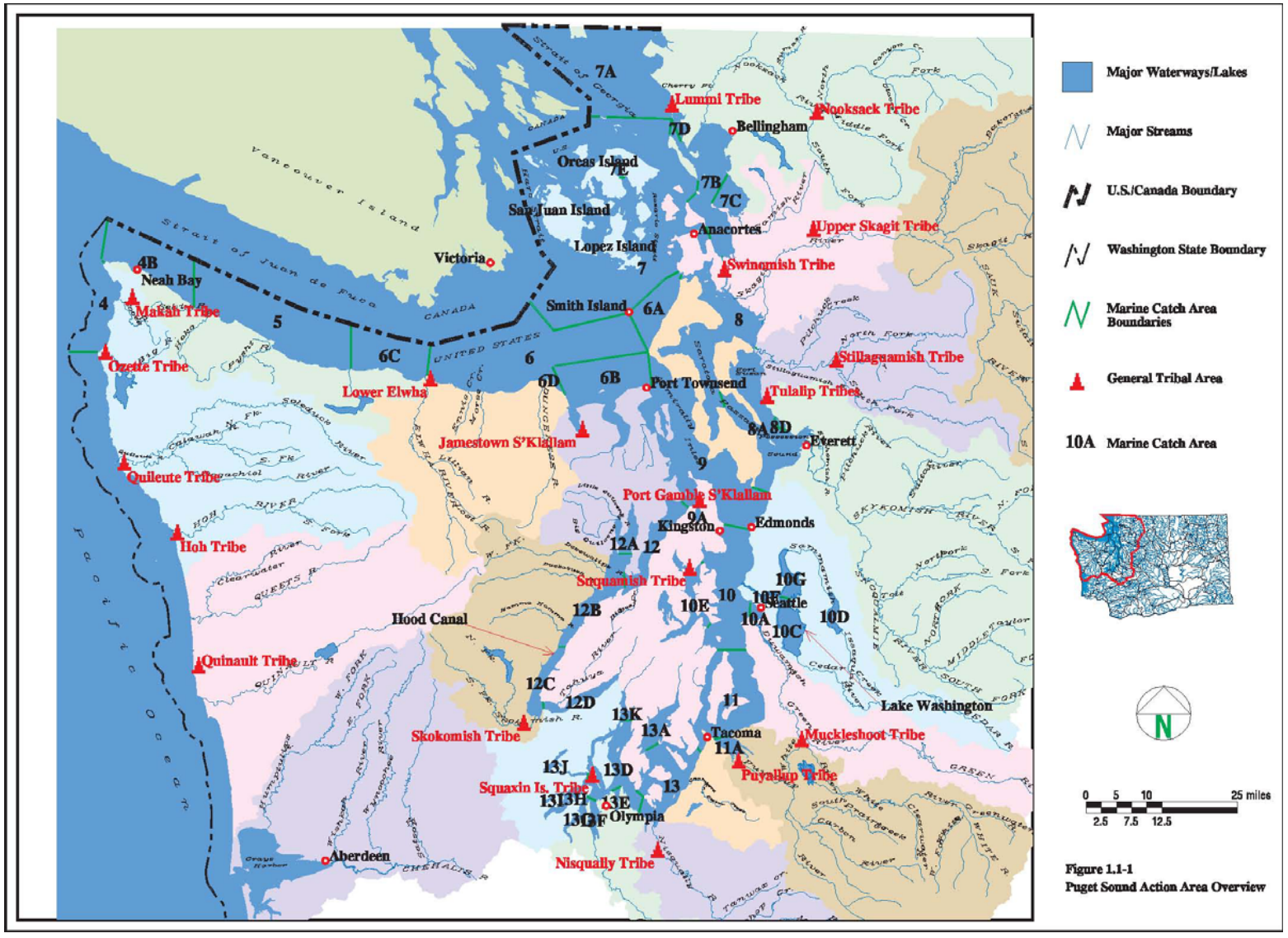
The landings in the economic regions from the selected catch areas are as follows:

Economic Region	Port Codes	Port Name	2002 Chinook Volume (round_pounds)
Northern Puget Sound	105	ANACORTES	6,238
Northern Puget Sound	110	BELLINGHAM BAY	591,393
Northern Puget Sound	115	BLAINE	13,808
Northern Puget Sound	135	FRIDAY HARBOR	15,412
Northern Puget Sound	140	LA CONNER	18,388
Southern Puget Sound	125	COUPEVILLE	3,110
Southern Puget Sound	130	EVERETT	52,034
Southern Puget Sound	143	WHIDBY ISLAND	1,639
Southern Puget Sound	155	OLYMPIA	7,440
Southern Puget Sound	169	POULSBO	13,373
Southern Puget Sound	170	SEATTLE	159,584
Southern Puget Sound	180	SHELTON	301,244
Southern Puget Sound	190	TACOMA	259,010
Coastal Washington North	150	NEAH BAY	14,488
Coastal Washington North	160	PORT ANGELES	9,886
Coastal Washington North	165	PORT TOWNSEND	7,444
Coastal Washington North	230	COPALIS BEACH	123
Other			22,137
Total			1,496,751

The chinook volume by catch area and the economic regions in which they were landed is as follows:

	Landing Area				
Catch Area (Nearby Economic Region)	Coastal Washington North	Southern Puget Sound	Northern Puget Sound	Other	Total
Coastal Washington North	24,338	408		9,306	34,052
Southern Puget Sound	3,167	78,777	645,239	6,735	733,918
Northern Puget Sound	4,436	718,249		6,096	728,781
Total	31,941	797,434	645,239	22,137	1,496,751

The statistical areas are shown on the following map:



Project: NWIFC Puget Sound Chinook Management EIS
Statement: Puget Sound Salmon Fisheries Volume by Gear and Disposition in 2002
Date: September 18, 2003
Report Table: 1

Landing Area	Non-Treaty		Treaty				
(Economic Region)	Volume	Eggs	Commercial	Take-Home	Eggs	C&S/Other	Total
CHINOOK							
Net							
North Puget Sound	258,414	78	359,892	15,800	1,070	5,552	382,314
South Puget Sound	20,967	68	304,134	384,961	40,926	15,907	745,928
Coastal Washington North	3,131	-	11,888	20	-	123	12,031
Regional Total	282,512	146	675,914	400,781	41,996	21,582	1,140,273
Statewide	284,022	146	683,012	400,781	41,996	21,582	1,147,371
Troll							
North Puget Sound	-	-	-	-	-	-	-
South Puget Sound	-	-	-	357	47	-	404
Coastal Washington North	-	-	16,625	141	-	-	16,766
Regional Total	-	-	16,625	498	47	-	17,170
Statewide	-	-	25,779	498	47	-	26,324
All Gears							
North Puget Sound	258,414	78	364,325	15,800	1,070	5,552	386,747
South Puget Sound	20,967	68	316,434	402,535	40,973	16,457	776,399
Coastal Washington North	3,131	-	28,526	161	-	123	28,810
Regional Total	282,512	146	709,285	418,496	42,043	22,132	1,191,956
Statewide	284,022	146	729,912	418,496	42,043	22,132	1,212,583
COHO							
Net							
North Puget Sound	102,694	-	525,205	107,395	10,819	10,941	654,360
South Puget Sound	18,499	-	690,439	118,801	11,637	21,888	842,765
Coastal Washington North	27,012	80	76,406	4,387	1,877	1,080	83,750
Regional Total	148,205	80	1,292,050	230,583	24,333	33,909	1,580,875
Statewide	148,205	80	1,292,737	230,583	24,333	33,909	1,581,562
Troll							
North Puget Sound	-	-	-	-	-	-	-
South Puget Sound	-	-	-	-	-	-	-
Coastal Washington North	-	-	-	-	-	-	-
Regional Total	-	-	-	-	-	-	-
Statewide	-	-	600	-	-	-	600
All Gears							
North Puget Sound	102,694	-	550,809	113,736	12,373	11,142	688,060
South Puget Sound	18,499	-	690,439	119,726	11,637	21,888	843,690
Coastal Washington North	27,012	80	76,409	4,387	1,877	1,080	83,753
Regional Total	148,205	80	1,317,657	237,849	25,887	34,110	1,615,503
Statewide	148,205	80	1,293,337	230,583	24,333	33,909	1,582,162
CHUM							
Net							
North Puget Sound	3,315,789	1,302	1,322,109	1,538,917	127,050	42,273	3,030,349
South Puget Sound	3,436,990	67	662,049	4,008,194	375,330	27,364	5,072,937
Coastal Washington North	2,906,175	-	11,571	100	-	76,767	88,438
Regional Total	9,658,954	1,369	1,995,729	5,547,211	502,380	146,404	8,191,724
Statewide	9,777,947	1,369	1,995,729	5,547,211	502,380	146,404	8,191,724

Landing Area	Non-Treaty		Treaty				
(Economic Region)	Volume	Eggs	Commercial	Take-Home	Eggs	C&S/Other	Total
PINK							
Net							
North Puget Sound	21	-	14	3	-	160	177
South Puget Sound	-	-	345	60	-	12	417
Coastal Washington North	-	-	696	-	-	-	696
Regional Total	21	-	1,055	63	-	172	1,290
Statewide	21	-	1,055	63	-	172	1,290
SOCKEYE							
Net							
North Puget Sound	708,420	-	1,189,387	11,296	-	11,713	1,212,396
South Puget Sound	70,961	-	402,325	13,830	30	35,846	452,031
Coastal Washington North	8,507	-	383,872	3,239	-	319	387,430
Regional Total	787,888	-	1,975,584	28,365	30	47,878	2,051,857
Statewide	793,104	-	1,980,970	28,365	30	47,878	2,057,243
STEELHEAD							
Net							
North Puget Sound	-	-	-	1,068	-	152	1,220
South Puget Sound	-	-	1,405	745	2	288	2,440
Coastal Washington North	-	-	2,195	811	29	-	3,035
Regional Total	-	-	3,600	2,624	31	440	6,695
Statewide	-	-	3,600	2,624	31	440	6,695

Notes: 1. Volume in round pound equivalents.
2. There was no attempt to resolve inconsistency for egg production. For example, it can be assumed that the general egg take yield is 7% to 8% for females. If 40,926 pounds of eggs are being reported as taken by chinook treaty net fisheries in southern Puget Sound, this would mean 1.02 million pounds of treaty salmon carcasses should be reported as landed rather than the 0.69 million pounds.
3. Statewide landings will be more than the sum of the three regions because some landings are delivered outside the regions.

Source: WDFW fish tickets database; extraction provided by NWIFC May 2003.

Project: NWIFC Puget Sound Chinook Management EIS
Statement: Average and Marginal Economic Impact Factors for Composite Product Forms by Species and Industry Component
Date: September 18, 2003
Report Table: 2

	Chinook						Coho																	
	Net			Troll			Net			Troll			Chum Net			Pink Net			Sockeye Net			Steelhead Net		
Margins	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total
Washington 2002																								
Ex-vessel price (per round pound)			$0.70			$1.02			$0.37			$0.41			$0.16			$0.48			$0.85			$0.48
Yield			80%			87%			80%			87%			80%			80%			80%			80%
Ex-processor price (per finish pound)			$1.68			$1.91			$1.26			$1.17			$0.97			$1.38			$1.87			$1.38
Ex-processor price (per round pound)			$1.34			$1.66			$1.01			$1.02			$0.78			$1.10			$1.49			$1.10
Processor margin (per round pound)			$0.64			$0.64			$0.64			$0.61			$0.62			$0.62			$0.64			$0.62
Personal income per pound																								
Marginal state level	$0.90	$1.01	$1.91	$0.87	$1.44	$2.31	$0.91	$0.49	$1.40	$0.85	$0.48	$1.33	$0.88	$0.16	$1.04	$0.90	$0.66	$1.56	$0.90	$1.25	$2.15	$0.90	$0.66	$1.56
Average state level	$0.80	$0.90	$1.70	$0.77	$1.28	$2.06	$0.81	$0.43	$1.24	$0.76	$0.42	$1.18	$0.78	$0.15	$0.93	$0.80	$0.58	$1.38	$0.80	$1.12	$1.92	$0.80	$0.58	$1.38
Direct			44.9%			44.9%			44.9%			44.9%			44.9%			44.9%			44.9%			44.9%
Indirect			24.9%			24.9%			24.9%			24.9%			24.9%			24.9%			24.9%			24.9%
Labor			20.5%			20.5%			20.5%			20.5%			20.5%			20.5%			20.5%			20.5%
Provisioners, suppliers, etc.			4.4%			4.4%			4.4%			4.4%			4.4%			4.4%			4.4%			4.4%
Induced			30.2%			30.2%			30.2%			30.2%			30.2%			30.2%			30.2%			30.2%
Employment per million round pounds																								
Marginal state level	25.8	29.1	54.9	25.0	41.5	66.4	26.1	14.0	40.2	24.4	13.7	38.2	25.2	4.7	30.0	25.8	18.9	44.7	25.8	36.1	62.0	25.8	18.9	44.7
Average state level	23.0	25.9	48.9	22.2	36.9	59.1	23.2	12.5	35.8	21.7	12.2	34.0	22.5	4.2	26.7	23.0	16.8	39.8	23.0	32.2	55.1	23.0	16.8	39.8
Direct			61.4%			61.4%			61.4%			61.4%			61.4%			61.4%			61.4%			61.4%
Indirect			16.3%			16.3%			16.3%			16.3%			16.3%			16.3%			16.3%			16.3%
Labor			13.5%			13.5%			13.5%			13.5%			13.5%			13.5%			13.5%			13.5%
Provisioners, suppliers, etc.			2.7%			2.7%			2.7%			2.7%			2.7%			2.7%			2.7%			2.7%
Induced			22.4%			22.4%			22.4%			22.4%			22.4%			22.4%			22.4%			22.4%
Output per round pounds																								
Marginal state level	$1.20	$1.36	$2.56	$1.18	$1.96	$3.14	$1.21	$0.69	$1.90	$1.15	$0.72	$1.87	$1.18	$0.27	$1.45	$1.19	$0.90	$2.09	$1.21	$1.67	$2.88	$1.19	$0.90	$2.09
Average state level	$1.07	$1.21	$2.28	$1.05	$1.74	$2.79	$1.08	$0.61	$1.69	$1.02	$0.64	$1.66	$1.05	$0.24	$1.29	$1.06	$0.80	$1.86	$1.08	$1.48	$2.56	$1.06	$0.80	$1.86
Direct			30.8%			30.8%			30.8%			30.8%			30.8%			30.8%			30.8%			30.8%
Indirect			32.2%			32.2%			32.2%			32.2%			32.2%			32.2%			32.2%			32.2%
Labor			26.1%			26.1%			26.1%			26.1%			26.1%			26.1%			26.1%			26.1%
Provisioners, suppliers, etc.			6.1%			6.1%			6.1%			6.1%			6.1%			6.1%			6.1%			6.1%
Induced			37.0%			37.0%			37.0%			37.0%			37.0%			37.0%			37.0%			37.0%

Project: NWIFC Puget Sound Chinook Management EIS
Statement: Economic Impact Factors For Net Caught Salmon By Product Forms And Industry Component
Date: September 11, 2003
Report Table: 3

	Chinook Product Form								
	Whole w/o Eggs			Eggs			Specialty Product		
	Processor	Harvester	Total	Processor	Harvester	Total	Processor	Harvester	Total
Washington 2002									
Ex-vessel price (per round pound)			$0.52			$1.85			$0.52
Yield			76%			90%			45%
Ex-processor price (per finish pound)			$1.48			$4.20			$3.67
Ex-processor price (per round pound)			$1.13			$3.78			$1.65
Processor margin (per round pound)			$0.61			$1.93			$1.13
Personal income per round pounds									
Marginal state level	$0.86	$0.54	$1.40	$2.72	$2.79	$5.51	$1.38	$0.53	$1.91
Average state level			$1.25			$4.90			$1.70
Direct			44.9%			44.9%			44.9%
Indirect			24.9%			24.9%			24.9%
Labor			20.5%			20.5%			20.5%
Provisioners, suppliers, etc.			4.4%			4.4%			4.4%
Induced			30.2%			30.2%			30.2%
Employment per million round pounds									
Marginal state level	24.7	15.6	40.3	78.0	80.4	158.4	39.6	15.4	55.1
Average state level	22.0	13.9	35.9	69.5	71.5	141.0	35.2	13.7	49.0
Direct			61.4%			61.4%			61.4%
Indirect			16.3%			16.3%			16.3%
Labor			13.5%			13.5%			13.5%
Provisioners, suppliers, etc.			2.7%			2.7%			2.7%
Induced			22.4%			22.4%			22.4%
Output per round pounds									
Marginal state level	$1.15	$0.73	$1.88	$3.63	$3.70	$7.33	$1.85	$0.72	$2.57
Average state level	$1.02	$0.65	$1.67	$3.23	$3.29	$6.52	$1.64	$0.64	$2.28
Direct			30.8%			30.8%			30.8%
Indirect			32.2%			32.2%			32.2%
Labor			26.1%			26.1%			26.1%
Provisioners, suppliers, etc.			6.1%			6.1%			6.1%
Induced			37.0%			37.0%			37.0%

Project: NWIFC Puget Sound Chinook Management EIS
Statement: Puget Sound Salmon Vessel and Processor Profiles in 2002
Date: September 18, 2003
Report Table: 4

Revenue Distribution for Non-Tribal Vessels That Harvested Puget Sound Salmon in 2002

Vessel's Total Revenue	Count of Vessels	Count %	Total Revenue	Total Revenue %	Average Revenue	Puget Sound Salmon Revenue % of Vessel	Puget Sound Salmon Revenue % of Total	Puget Sound Salmon Revenue Average	Puget Sound Salmon Revenue Median
$0 to $500	18	7%	4,148	0.1%	230	99.8%	0.1%	230	216
$501 to $5,000	87	35%	212,020	3.1%	2,437	98.5%	7.1%	2,401	2,208
$5,001 to $30,000	88	35%	1,312,477	19.3%	14,915	81.8%	36.7%	12,201	9,246
$30,001 to $50,000	26	10%	988,393	14.5%	38,015	78.1%	26.3%	29,675	34,479
$50,001 to $100,000	19	8%	1,193,252	17.6%	62,803	32.9%	13.4%	20,636	15,701
Over $100,000	14	6%	3,083,211	45.4%	220,229	15.5%	16.3%	34,187	31,309
All vessels	252	100%	6,793,501	100.0%	26,958	43.1%	100.0%	11,623	5,199

Notes: 1. Revenue is ex-vessel value received for selling harvests to processors or the public.
Source: PacFIN July 2003 extraction.

Purchase Distribution for Processors that Purchase Puget Sound Salmon in 2002

Processor's Total Purchases	Count of Processors	Count %	Total Purchases	Total Purchases %	Average Purchases	Puget Sound Salmon Purchases % of Processor	Puget Sound Salmon Purchases % of Total	Puget Sound Salmon Purchases Average	Puget Sound Salmon Purchases Median
$0 to $5,000	21	22%	52,170	0.2%	2,484	56.4%	0.4%	1,402	1,115
$5,001 to $30,000	27	28%	338,326	1.1%	12,531	67.8%	3.2%	8,492	6,778
$30,001 to $100,000	19	20%	1,101,685	3.4%	57,983	54.9%	8.4%	31,849	22,228
$100,001 to $1,000,000	22	23%	9,365,309	29.1%	425,696	47.6%	61.9%	202,714	204,396
Over $1,000,000	8	8%	21,276,573	66.2%	2,659,572	8.8%	26.1%	234,842	27,437
All processors	97	100%	32,134,063	100.0%	331,279	22.4%	100.0%	74,251	7,407

Notes: 1. Purchases are ex-vessel value.
2. Excludes 38 processor codes that are vessels selling fish to the public.
Source: PacFIN July 2003 extraction.

Project: NWIFC Puget Sound Chinook Management EIS
Statement: Economic Contributions From Salmon Fisheries For Economic Regions And For State
Date: September 18, 2003
Report Table: 5

	Chinook						
		Treaty					
		Net					
	Non-Treaty	Commercial				Troll	
	Net	Whole w/eggs	Specialty	Take-Home	Eggs	Commercial	Total
North Puget Sound							
Pounds landed	258,414	349,095	10,797	15,800	1,070	-	
Average impacts							
Income	420,879	568,571	16,427	17,604	4,684	-	1,028,165
Employment (FTE)	13.2	17.8	0.5	0.6	0.2	-	32.2
Output	448,477	605,855	22,425	24,028	6,350	-	1,107,134
South Puget Sound							
Pounds landed	20,967	295,010	9,124	384,961	40,926	-	
Average impacts							
Income	36,015	506,739	15,459	477,665	199,536	-	1,235,414
Employment (FTE)	1.0	14.0	0.4	12.5	5.2	-	33.1
Output	47,025	661,648	20,135	622,017	258,057	-	1,608,882
Coastal Washington North							
Pounds landed	3,131	11,531	357	20	-	16,625	
Average impacts							
Income	4,849	17,857	501	21	-	31,072	54,300
Employment (FTE)	0.2	0.6	0.0	0.0	-	1.1	1.8
Output	5,685	20,936	670	28	-	36,991	64,309
Regional Total							
Pounds landed	282,512	655,637	20,277	400,781	41,996	16,625	
Average impacts							
Income	461,743	1,093,168	32,387	495,290	204,220	31,072	2,317,879
Employment (FTE)	14.3	32.4	1.0	13.1	5.4	1.1	67.2
Output	501,187	1,288,440	43,230	646,072	264,407	36,991	2,780,326
State							
Pounds landed	284,022	662,522	20,490	400,781	41,996	25,779	
Average impacts							
Income	482,809	1,126,221	34,920	500,188	205,944	52,999	2,403,081
Employment (FTE)	13.9	32.4	1.0	14.4	5.9	15.2	82.8
Output	647,116	1,509,489	46,783	669,993	273,969	72,042	3,219,392

Notes:
1. Treaty commercial net and troll harvests include effects from 98% of fish with product form whole, fresh. About 2% is lower grade and purchased for a product going to specialty markets. About 75% of net fish provide a marketable egg product during a fishing season. Because there is generally no differentiation in ex-vessel price, commercial net fisheries uses a with eggs economic impact factor.
2. Take-home assumes commercial use without eggs.
3. A small amount of eggs landed in the non-treaty net fishery, and a small amount of take-homes and eggs in the treaty troll fishery is not included in the analysis. It is assumed C&S, and seizures do not have commercial value.
4. Eggs are delivered with most carcasses declared take-homes. There is an unresolved discrepancy between assumed egg yield and carcass pounds.
5. Region economic analysis totals will not equal state because of "trade leakage" from economies. Also, there are some harvests in the management plan regions, but landed in areas outside of the region. These landings are included at the state level calculations.

	Coho						
		Treaty					
		Net					
	Non-Treaty	Commercial				Troll	
	Net	Whole w/eggs	Specialty	Take-Home	Eggs	Commercial	Total
North Puget Sound							
Pounds landed	102,694	528,777	22,032	113,736	12,373	-	
Average impacts							
Income	122,473	630,619	16,507	62,037	53,185	-	884,821
Employment (FTE)	3.8	19.7	0.5	2.0	1.7	-	27.8
Output	132,527	682,386	22,533	84,664	72,126	-	994,236
South Puget Sound							
Pounds landed	18,499	662,821	27,618	119,726	11,637	-	
Average impacts							
Income	23,214	831,775	23,044	72,726	55,707	-	1,006,466
Employment (FTE)	0.6	23.0	0.6	1.9	1.5	-	27.6
Output	30,788	1,103,134	30,011	94,694	72,075	-	1,330,701
Coastal Washington North							
Pounds landed	27,012	73,353	3,056	4,387	1,877	-	
Average impacts							
Income	30,291	82,258	2,114	2,209	7,448	-	124,320
Employment (FTE)	1.0	2.8	0.1	0.1	0.3	-	4.2
Output	35,821	97,273	2,829	2,955	9,901	-	148,778
Regional Total							
Pounds landed	148,205	1,264,951	52,706	237,849	25,887	-	
Average impacts							
Income	175,979	1,544,651	41,665	136,972	116,340	-	2,015,607
Employment (FTE)	5.5	45.5	1.2	4.0	3.5	-	59.7
Output	199,135	1,882,793	55,372	182,313	154,102	-	2,473,715
State							
Pounds landed	148,205	1,241,604	51,733	230,583	24,333	600	
Average impacts							
Income	184,290	1,543,910	43,417	140,880	117,161	709	2,030,366
Employment (FTE)	5.3	44.4	1.2	4.1	3.4	0.2	58.6
Output	250,089	2,095,146	58,162	188,685	155,926	996	2,749,004

	Chum						
		Treaty					
		Net					
	Non-Treaty	Commercial				Troll	
	Net	Whole w/eggs	Specialty	Take-Home	Eggs	Commercial	Total
North Puget Sound							
Pounds landed	3,315,789	1,295,667	26,442	1,538,917	127,050		
Average impacts							
Income	2,980,563	1,164,675	9,309	397,155	828,775		5,380,477
Employment (FTE)	93.1	36.4	0.3	12.9	27.0		169.7
Output	3,246,157	1,268,458	12,708	542,086	1,112,970		6,182,379
South Puget Sound							
Pounds landed	3,436,990	648,808	13,241	4,008,194	375,330		
Average impacts							
Income	3,273,046	617,860	5,191	1,151,981	2,726,633		7,774,710
Employment (FTE)	90.5	17.1	0.1	30.2	71.4		209.3
Output	4,343,668	819,964	6,761	1,500,143	3,493,437		10,163,973
Coastal Washington North							
Pounds landed	2,906,175	11,340	231	100	-		
Average impacts							
Income	2,405,441	9,386	75	24	-		2,414,926
Employment (FTE)	81.3	0.3	0.0	0.0	-		81.6
Output	2,896,875	11,303	101	32	-		2,908,311
Regional Total							
Pounds landed	9,658,954	1,955,814	39,915	5,547,211	502,380		
Average impacts							
Income	8,659,049	1,791,921	14,575	1,549,160	3,555,408		15,570,113
Employment (FTE)	264.9	53.8	0.4	43.1	98.4		460.6
Output	10,486,701	2,099,725	19,570	2,042,261	4,606,407		19,254,663
State							
Pounds landed	9,777,947	1,955,814	39,915	5,547,211	502,380		
Average impacts							
Income	9,084,240	1,817,057	15,740	1,603,581	3,670,840		16,191,459
Employment (FTE)	261.2	52.3	0.5	46.1	105.6		465.6
Output	12,586,297	2,517,549	21,087	2,148,009	4,837,819		22,110,762

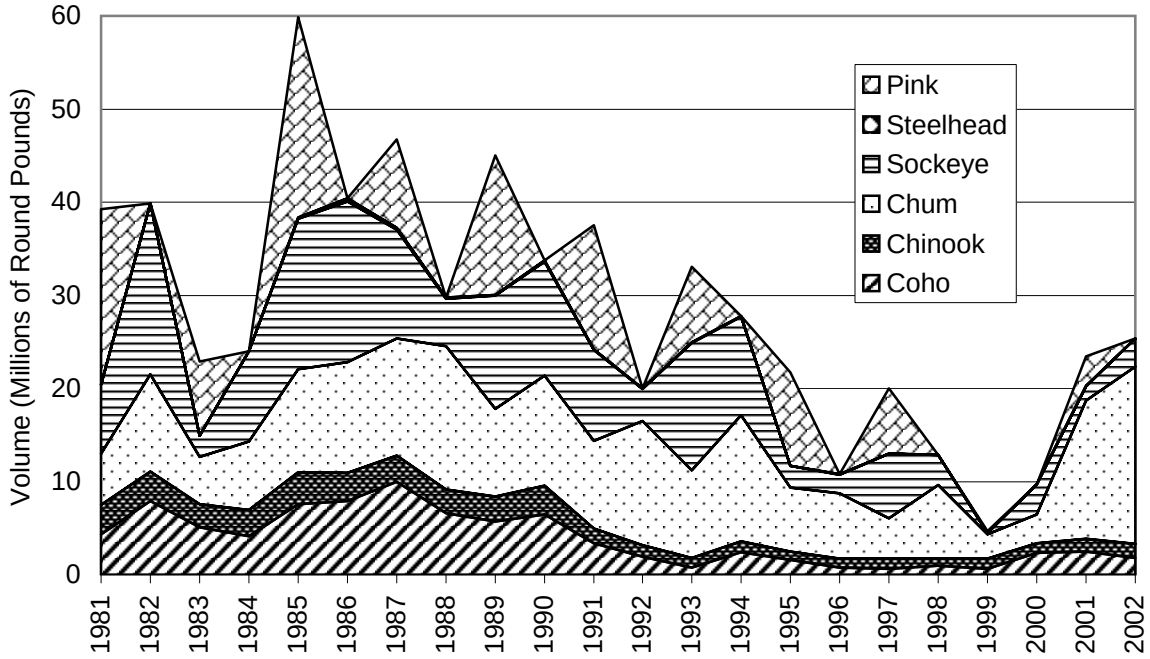
	Pink						
		Treaty					
		Net					
	Non-Treaty	Commercial				Troll	
	Net	Whole w/eggs	Specialty	Take-Home	Eggs	Commercial	Total
North Puget Sound							
Pounds landed	21	14	0	3	-		
Average impacts							
Income	27	18	0	-	-		46
Employment (FTE)	0.0	0.0	0.0	-	-		0.0
Output	30	19	0	-	-		50
South Puget Sound							
Pounds landed	-	338	7	60	-		
Average impacts							
Income	-	466	8	-	-		475
Employment (FTE)	-	0.0	0.0	-	-		0.0
Output	-	617	11	-	-		628
Coastal Washington North							
Pounds landed	-	682	14	-	-		
Average impacts							
Income	-	856	14	-	-		870
Employment (FTE)	-	0.0	0.0	-	-		0.0
Output	-	1,008	19	-	-		1,027
Regional Total							
Pounds landed	21	1,034	21	63	-		
Average impacts							
Income	27	1,340	23	-	-		1,391
Employment (FTE)	0.0	0.0	0.0	-	-		0.0
Output	30	1,644	31	-	-		1,704
State							
Pounds landed	21	1,034	21	63	-		
Average impacts							
Income	29	1,431	26	-	-		1,486
Employment (FTE)	0.0	0.0	0.0	-	-		0.0
Output	39	1,926	35	-	-		2,001

	Sockeye						
		Treaty					
		Net					
	Non-Treaty	Commercial				Troll	
	Net	Whole w/eggs	Specialty	Take-Home	Eggs	Commercial	Total
North Puget Sound							
Pounds landed	708,420	1,165,599	23,788	11,296	-		
Average impacts							
Income	1,311,427	2,157,757	34,798	-	-		3,503,982
Employment (FTE)	41.0	67.4	1.1	-	-		109.5
Output	1,380,781	2,271,870	47,373	-	-		3,700,024
South Puget Sound							
Pounds landed	70,961	394,279	8,047	13,830	30		
Average impacts							
Income	138,310	768,488	13,109	-	-		919,907
Employment (FTE)	3.8	21.2	0.3	-	-		25.4
Output	178,729	993,069	17,026	-	-		1,188,825
Coastal Washington North							
Pounds landed	8,507	376,195	7,677	3,239	-		
Average impacts							
Income	14,915	659,582	10,368	-	-		684,865
Employment (FTE)	0.5	22.3	0.4	-	-		23.2
Output	17,338	766,722	13,836	-	-		797,896
Regional Total							
Pounds landed	787,888	1,936,072	39,512	28,365	30		
Average impacts							
Income	1,464,653	3,585,827	58,274	-	-		5,108,754
Employment (FTE)	45.3	111.0	1.9	-	-		158.1
Output	1,576,849	4,031,661	78,235	-	-		5,686,745
State							
Pounds landed	793,104	1,941,351	39,619	28,365	30		
Average impacts							
Income	1,520,991	3,723,063	64,919	-	-		5,308,973
Employment (FTE)	43.7	107.1	1.9	-	-		152.7
Output	2,030,322	4,969,799	86,735	-	-		7,086,856

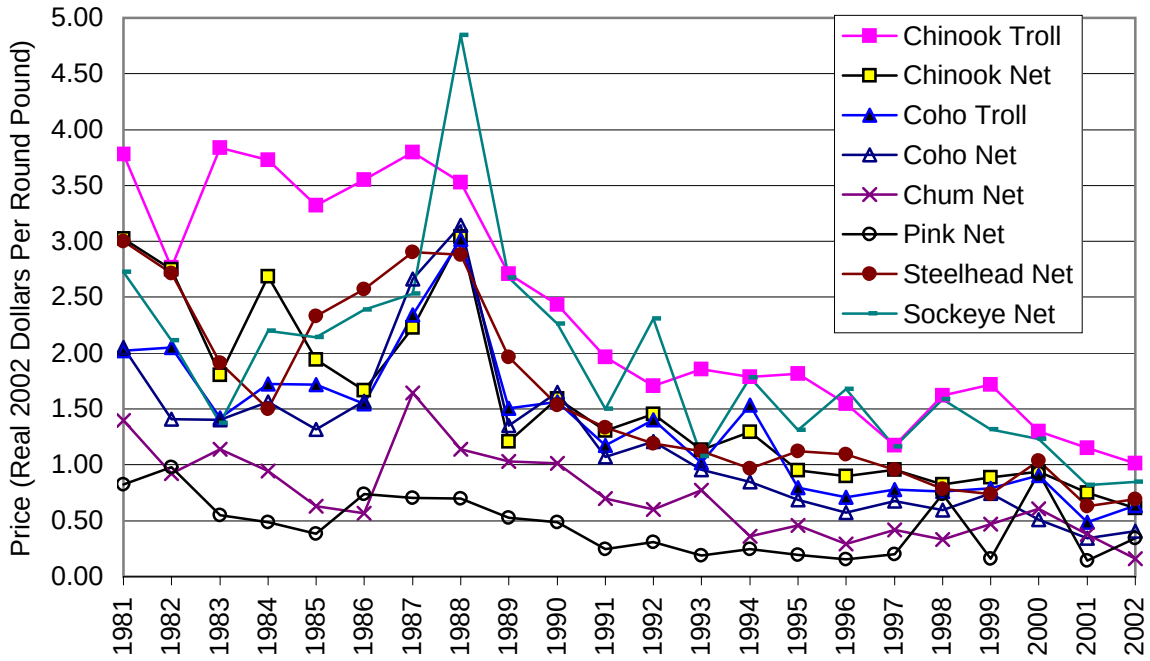
	Steelhead						
		Treaty					
		Net					
	Non-Treaty	Commercial				Troll	
	Net	Whole w/eggs	Specialty	Take-Home	Eggs	Commercial	Total
North Puget Sound							
Pounds landed	-	-	-	1,068	-		
Average impacts							
Income	-	-	-	-	-		-
Employment (FTE)	-	-	-	-	-		-
Output	-	-	-	-	-		-
South Puget Sound							
Pounds landed	-	1,377	28	745	2		
Average impacts							
Income	-	1,899	35	-	-		1,934
Employment (FTE)	-	0.1	0.0	-	-		0.1
Output	-	2,512	45	-	-		2,557
Coastal Washington North							
Pounds landed	-	2,151	44	811	29		
Average impacts							
Income	-	2,699	45	-	-		2,744
Employment (FTE)	-	0.1	0.0	-	-		0.1
Output	-	3,178	60	-	-		3,238
Regional Total							
Pounds landed	-	3,528	72	2,624	31		
Average impacts							
Income	-	4,599	79	-	-		4,678
Employment (FTE)	-	0.1	0.0	-	-		0.1
Output	-	5,690	105	-	-		5,795
State							
Pounds landed	-	3,528	72	2,624	31		
Average impacts							
Income	-	4,884	89	-	-		4,973
Employment (FTE)	-	0.1	0.0	-	-		0.1
Output	-	6,574	120	-	-		6,693

Project: NWIFC Puget Sound Chinook Management EIS
Statement: Statewide Historical Landings From Puget Sound
Date: September 18, 2003
Report Figure: 1

Landing Volume From Puget Sound Commercial Salmon Fisheries in 1981 to 2002



Price of Salmon From Puget Sound Commercial Fisheries in 1981 to 2002

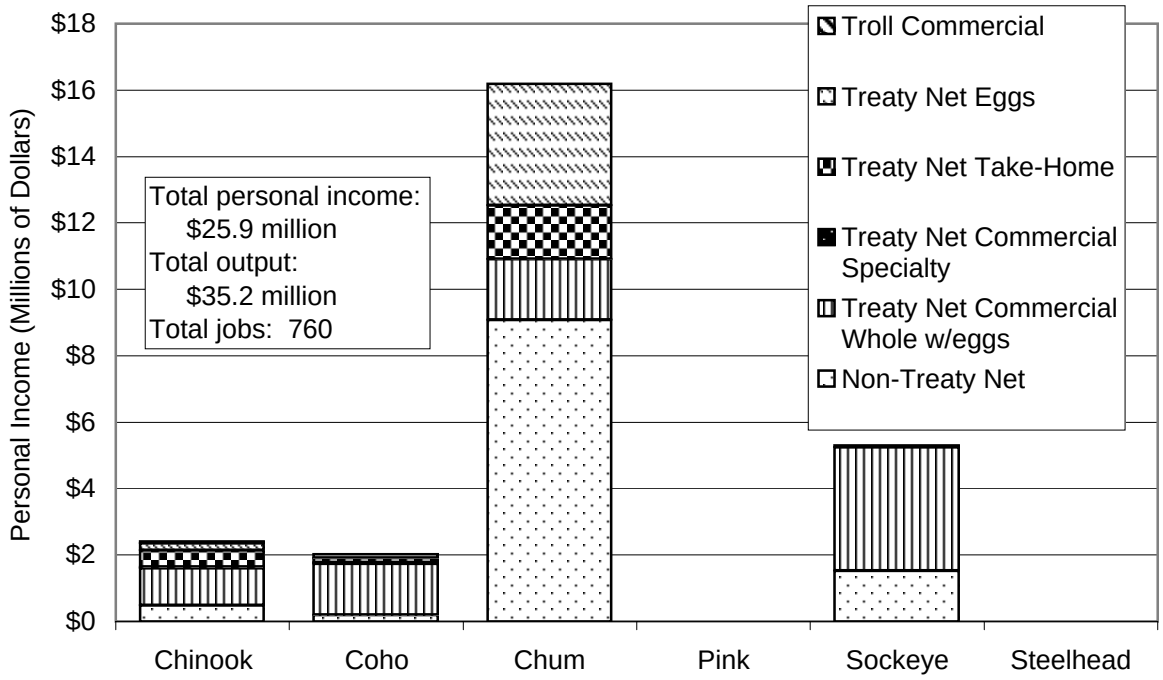


Notes: 1. Price adjusted to 2002 dollars using the GDP implicit price deflator developed by the U.S. Bureau of Economic Analysis.

Source: PacFIN January and July 2003 extractions.

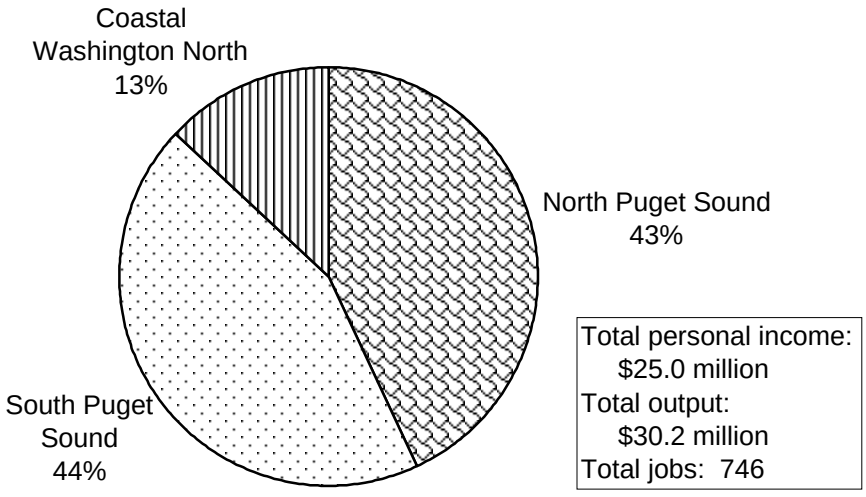
Project: NWIFC Puget Sound Chinook Management EIS
Statement: Economic Contributions From Salmon Fisheries For State
Date: September 18, 2003
Report Figure: 2

Economic Contribution From Puget Sound Commercial
Salmon Fishing to Washington State's Economy in 2002



Notes: 1. Economic contribution measured by personal income adjusted to 2002 dollars using the GDP implicit price deflator developed by the U.S. Bureau of Economic Analysis. Economic contribution is at the state level.
2. Economic contribution includes direct, indirect, and induced impacts (multiplier effect) on the economy.

Economic Contribution From Puget Sound Commercial
Salmon Fishing to the Puget Sound Economy in 2002



Notes: 1. Economic contribution measured by personal income adjusted to 2002 dollars using the GDP implicit price deflator developed by the U.S. Bureau of Economic Analysis. Economic contribution is at the local level economy.
2. Economic contribution includes direct, indirect, and induced impacts (multiplier effect) on the economy.

ATTACHMENT C

Net Economic Value Factors for Commercial Fishing Developed by Meyer Resources, Inc.

Net Economic Value for Commercial Salmon Fishing in Puget Sound and the Strait of Juan de Fuca

I. Background and Available Method.

Economists paid particular attention to requisite procedures for net economic valuation of commercial salmon fishing in the Pacific Northwest – and more generally – from the late 1960's and early 1970's[1] through the early 1980's – where procedural consensus was summed up in the U.S. Water Resources Council's Principles and Guidelines (hereafter P&G)[2]. The principles established over this period have been generally followed in applied economic analysis of impacts from federal projects to the present day. These principles are:

- Net economic value is the appropriate measure of economic impact from a national accounting perspective. Net economic impact for commercial fishing is to be determined by the change in ex-vessel value of harvest under each project alternative, minus the associated change in cost[3]. This principal also holds for fish processing.

- Excess fleet capacity may have an important effect on estimating actual changes in costs associated with alternative fishing plans.

  > The excess capacity that will normally exist will make it difficult to obtain a proper estimate of changes in cost associated with changes in harvests. In some instances, idle boats will be available and the only additional costs will be operating costs. In other instances, vessels that are operating will be able to harvest the extra catch without significant change in variable costs.[4]

- Any employment of otherwise unemployed labor resources is to be treated as a net economic benefit, not a cost, in net economic impact accounting.

  > Conceptually, any employment, anywhere in the Nation, of otherwise unemployed or underemployed resources that results from a project represents a valid NED (net economic development) benefit.[5]

  In applied terms, this requirement instructs that costs associated with labor, taken from a labor pool that is otherwise substantially and persistently unemployed, should not be deducted from net economic value.

---

[1] i.e. Idaho Cooperative Fishery Unit, **A Report to the National Marine Fisheries Service, on Workshops in Fishery Economics at Moscow, Idaho, and Madison, Wisconsin,** University of Idaho, 1973.

[2] U.S. Water Resources Council, 1983. **Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies.** Washington, D.C., U.S. Superintendent of Documents.

[3] **Supra** at 90.

[4] **Supra.**

[5] **Supra** at 93.

Net economic value associated with producers' and consumers' surplus can also be calculated at retail levels. However, no contemporary region-specific data is available to support such assessment. Meyer Resources, Inc. and Biosystems Analysis, Inc. used earlier national data to develop estimates of retailer producer surplus[6] along the Pacific Coast. In 1976, Brown, Douglas, Johnston and Wahle estimated consumer surplus at retail for Columbia River Salmon[7]. The present analysis does not incorporate such retail-level estimates. This convention reduces the absolute net economic estimate for each Alternative considered, but does not alter the comparative ranking of the Alternatives.

II. Comparing Net Economic Value from Impacts of Change with Status Quo Circumstances.

The framework of Alternatives considered by this EA/EIS incorporates one choice – Alternative 1 – based on estimates of "no change in present fishery management planning", essentially a theoretical representation of status quo. Since methods discussed in the preceding section measure the net economic impacts from change, they cannot be directly used for Alternative 1 – but must be adjusted to consider status quo.

The central issue concerning net economic evaluation of the present circumstances of salmon harvesters stems from the common property characteristics of the salmon fishery[8]. As early as 1955, it was noted that where access of harvesters to fisheries was unrestrained, the fishing fleet would tend to expand as long as some fishers made profits – driving net economic returns for the fleet as a whole toward zero[9].

Economic dialogue on this issue in the 1960's and 70's focussed on the extent to which fishery planning was "intentionally inefficient"[10] in order to meet social objectives – such as well-being of fishing communities - as well as economic efficiency goals. But economists cautioned that if benefits associated with social goals were to be included in economic calculus, there would need to be a system regulating the number of salmon harvesters in place – where, at least in a general sense, tradeoffs between economic and social objectives actually occurred. A gathering of fishery economic specialists, brought

---

[6] i.e. Meyer Resources, Inc., 1985. **The Economic Value of Striped Bass, Morone saxatilis, Chinook Salmon, Oncorhynchus tshawytscha, and Steelhead Trout, Salmon gairdneri, of the Sacramento and San Joaquin River Systems.** Sacramento: California Department of Fish and Game Administrative Report 85-03. Biosystems Analysis, Inc., 1988. **A Bioeconomic Model for Evaluation of Flow Changes Affecting Chinook Salmon, Agriculture and Power: Economic Sub-Model.** Sausalito, CA: A Report to the National Marine Fisheries Service. Meyer Resources, Inc., 1997. **Northwest Tribal Values on the Land.** 1997. Davis, CA: A Report to the Northwest Indian Fisheries Commission.

[7] Brown, William G., D.M. Larson, R.S. Johnston and R.J. Wahle, 1976. **Improved Economic Evaluation of Commercially and Sport-Caught Salmon and Steelhead of the Columbia River.** Corvallis: University of Oregon State Agricultural Experiment Station Special Report 463.

[8] A common property resource is a resource held by public trustees, as opposed to private owners.

[9] H. Scott Gordon, 1955. "The Economic Theory of a Common Property Resource; The Fishery", in, **Journal of Political Economy**, LXIII, Apr.

[10] Defined in the salmon context as "too many vessels harvesting too few fish" to achieve maximum economic returns per vessel.

together by NMFS, identified this framework during review of U.S. Water Resources Council Guidelines in 1973.

> It might be argued that the cost of the inefficiencies associated with the current over-capitalization of the (fishing) industry is a choice by society, and that if society were to choose, there could be substantial net economic rent generated. However, there is still no possibility that anyone can capture this potential net economic rent until institutional changes in the market system are made. If these institutional changes are made, there will be important regional effects and "social effects" (i.e. displacement of families, change in the nature of fishing ports, etc.). Since these changes have not been made, one might assume that the value of these "social effects" is at least equal to the net economic rent that could be generated from the fishery.[11]

Crutchfield (1962) had already recommended that net benefits associated with salmon harvesting be calculated as the maximum net economic rent attainable if the fishery were operated by a non-discriminating sole owner[12]. But explicit access management plans to govern salmon fleet size only began in 1969, in British Columbia – and did not follow in the United States for another decade or more.

Crutchfield's 1962 recommendation may have been prescient. It is clear today that determination of the number of vessels that are allowed access to commercial harvest openings in waters off the State of Washington receive continuing attention by salmon management authorities. It is equally clear that dialogue concerning access to salmon fisheries considers trade-offs between economic efficiency and the well being of fishing families, communities and ports on an ongoing basis.

Consequently, assessment of net economic value associated with the Alternative 1 management status quo in this EA/EIS will consider two indicators of net economic status: i) present-day average *net economic returns* evident in the salmon fishery – without consideration of benefit trade-offs with family and/or community goals; ii) net economic returns from present fishing activities plus "potential economic rent" forgone to achieve family, community or fishing port objectives. We will term the first indicator *net economic efficiency returns*, and the second indicator *net socio-economic returns*.

III. Empirical Evidence

1. Salmon Fishing

In order to implement net economic value analyses at the salmon fishing level, it is necessary to obtain relevant data with respect to levels of salmon harvest, revenue associated with stipulated harvest levels, associated fishing costs and the characteristics of employment/ unemployment in the labor pool from which fishers are drawn.

---

[11] Idaho Cooperative Fishery Unit, **Supra** at 10.
[12] Crutchfield, James. 1962. "Valuation of Fishery Resources", in, **Land Economics**, 38: 145-154.

For this EIS, estimates of salmon harvest under each alternative were provided by the fishery modeling group – and converted to weight of harvest in pounds using data from the Washington Department of Fish and Wildlife's LIFT database. Harvest poundage was then converted to dollars of revenue, using average prices from the LIFT database.

Empirical information with respect to changes in salmon net economic value, as harvest levels change is less systematically available. Major empirical enquiries were conducted by Barclay and Morley (1977)[13], Oregon State University (1978)[14], Petry (1979)[15] and Jear (1980)[16]. More recent studies concerning net economic changes in fishery harvest values have essentially summarized earlier studies, and made "expert recommendations" based on those data – but have introduced little further contemporary empirical evidence[17].

Cost and earnings analyses of Pacific Northwest fisheries have been conducted over the years. Canada Fisheries and Oceans periodically release financial data for the adjacent Canadian salmon fleet – with data from 1994 the most recent[18]. A more recent data release from *Fisheries Economic Assessment Model* (FEAM) by the Pacific Fisheries Management Council is currently pending[19]. Such cost and earnings information will be utilized in this report to provide *net economic efficiency returns* for Alternative 1, status quo. These data are also of assistance in developing net economic impact estimates for Alternatives 2 through 4 – although they do not address net economic impacts from changed salmon harvest levels directly. Characteristics of the salmon fleet of Washington State and British Columbia are similar. We will utilize the Canada Fisheries and Oceans data for this analysis – and update it as feasible when FEAM data becomes fully available.

---

[13] Barclay, J.C. and R.W. Morley, 1977. **Estimation of Commercial Fishery Benefits and Costs for the National Income Account**. Vancouver: Department of Fisheries and Oceans.

[14] Oregon State University, 1978, **Socio-Economics of the Idaho, Washington, Oregon and California Coho and Chinook Salmon Industry**, 2 Vols. Corvallis: A Report to the Pacific Fishery Management Council.

[15] Petry, G.H., 1979. **Pacific Northwest Salmon and Steelhead Fishery Report—The Economic Status of the Oregon and Washington Non-Indian Salmon Gillnet and Troll Fishery, 2 Vols**. Pullman: Washington State University.

[16] Jear, L. 1980. **Second Draft of Commercial Fishery Benefits and Costs Data (1976-1978)**. Vancouver: Department of Fisheries and Oceans.

[17] i.e. Meyer, Philip A., 1982. **Net Economic Values for Salmon and Steelhead from the Columbia River System**. Portland: National Marine Fisheries Service, NOAA Technical Memorandum NMFS F/NWR – 3; Rettig, Bruce and B. McCarl, 1984, "Potential and Actual Benefits from Commercial Fishing Activities" in, **NMFS Workshop**. Seattle: National Marine Fisheries Service, NOAA Technical Memorandum F/FWR-8; Biosystems Analysis, Inc. 1988. **Supra**: Radke, Hans D., S.W. Davis and R.L. Johnson, 1999. **Anadromous Fish Economic Analysis: Lower Snake River Juvenile Migration Feasibility Study**. Corvallis: Prepared for Foster Wheeler Environmental Corporation and the U.S. Army Corps of Engineers.

[18] Gislason, Gordon. 1997. **The BC Fishing Fleet: Financial Returns for 1991 and 1994.** Vancouver: Canada Fisheries and Oceans.

[19] Pacific Fisheries Management Council, 2003. **Fisheries Economic Assessment Model**. Portland: forthcoming.

2. Salmon Processing

Empirical information from which to calculate net economic impacts on salmon processors from altered salmon harvests is less available than for fishermen. Few economists have asked questions concerning whether processor infrastructure changes at all – and if so, by what proportion – as the amount of salmon landed changes. Rather, economists have tended to use FEAM-type average data, or other specific survey-based findings to estimate *value added by processing* and associated status quo *net economic efficiency returns* for processors. Principal among these studies are: Oregon State University (1978), Petry (1979), Penn (1980)[20], Clarkson Gordon, (1983)[21], Biosystems Analysis (1988), Kearney/Centaur (1988)[22] and Pacific Fisheries Management Council (2003).

These studies, and associated data, will be employed in the present EIS to estimate net economic returns to salmon processors under each alternative.

IV. A Framework for Net Economic Valuation of Impacts in the Present EIS.

1. The Magnitude of Change in Harvest

As noted, the magnitude of change in harvest is an important determinant of associated change in harvest costs. For small adjustments in harvest, associated fishing costs may change little, if at all. For more substantial adjustments, capital may remain fixed, but variable costs associated with harvesting can be expected to rise (for harvest increases) or fall (for harvest decreases). As harvest increases/decreases further, fishing capital may be expected to increase (for gains) or decline (for losses).

Alternative 2 (Escapement Goal Management) and Alternative 3 (No Action/No Authorized Take) forecast non-tribal salmon harvest levels declining to near zero. On this basis, impact on non-tribal fishers will be estimated at the *net economic efficiency* level and the *net socio-economic returns* level.

Alternatives 2 and 3 reduce tribal harvests substantially, but do not eliminate them. Given the material and cultural importance of salmon fishing to the tribes, this assessment of net economic returns to tribal fishers will assume that the fishing power of tribal vessels and set nets remains near present levels – and that variable cost changes with reduction in harvest.

---

[20] Penn, E. 1980. **Cost Analysis of Fish Price Margins, 1972-1977, at Different Production and Distribution Levels.** Washington, D.C.: National Marine Fisheries Service.

[21] Clarkson Gordon, 1983. **Summary of the British Columbia Fish Processing Industry.** Vancouver: A Report to the Department of Fisheries and Oceans.

[22] Kearney/Centaur, 1988. **Development of Value Added, Margin and Expenditures for Marine Fishery Products.** Washington, D.C.: A Report for the National Marine Fisheries Service.

2. Characteristics of the Labor Pool for Fishers.

The US Water Resources Council's P&G (1983) established criteria to decide whether or not payments to labor should be treated as a benefit in net benefit estimation.

> Benefits from use of otherwise unemployed or underemployed labor resources may be recognized as a project benefit if the area has substantial and persistent unemployment… . Substantial and persistent unemployment exists in an area when:
>
> (1) the current rate of unemployment, as determined by appropriate annual statistics for the most recent 12 consecutive months, is 6 percent or more and has averaged at least 6 percent for the qualifying time periods specified in paragraph (2) and
>
> (2) the annual average rate of unemployment has been at least: (i) 50 percent above the national average for three of the preceding four calendar years, or (ii) 75 percent above the national average for one of the preceding two calendar years. [23]

The P&G further identifies that such unemployed labor must be available to fishing, and specific to the area in question[24].

Data concerning unemployment for the ten counties constituting the area of impact for this EA/EIS fall within the range of U.S. unemployment[25]. They do not rise to the standard required by the P&G for crediting of labor costs as benefits. Consequently, estimates of *net economic efficiency* and *net socio-economic returns* for non-tribal fishers will treat payments to labor as costs.

Unemployment rates for affected tribes are much higher – ranging from a 2001 low of 26 percent (Lummi) to a high of 78 percent (Sauk-Suiattle)[26]. These levels exceed the standard for *substantial and persistent unemployment* establish by the U.S. Water Resources Council. Consequently, payments to tribal fishers will be excluded from variable costs in tribal net economic benefit calculations.

3. Selection of Net Economic Value Coefficients for the Present Analysis.

Fishing level coefficients utilize 1994 cost and earnings data for salmon gill-netters and trollers from Gislason, 1997 (Table 1).

---

[23] U.S. Water Resources Council. **Supra** at 93.
[24] **Supra**.
[25] i.e. U.S. Bureau of the Census, 2003. **Census 2000.** Summary File 3, Table P43.
[26] U.S. Bureau of Indian Affairs, 2003. **Indian Population and Labor Force Report: 2001**. pp. 9 & 18. Also see same publication for preceding years.

Table 1

Estimated Average Annual Revenue and Costs For Salmon Gill-netters and Trollers

Revenue/Cost Element	Revenue/Cost ($)	Percent of Total Revenue
Annual Revenue Per Vessel	51,460	100%
Fixed Cost	10,460	20
Capital Cost	6,060	12
Variable Cost:	24,520	48
• Crew & Skipper	o 19,240	o 38
• Fuel/Food/Other	o 5,280	o 10
Net Return to Investment	10,420	20%

Source: Gislason, 1997. Exhibit B3.

Selection of *non-tribal fishing coefficients for Alternative 1* (No Change) follow discussion from prior sections - and employs the Gislason data to estimate for *net economic efficiency* - and the 90 percent "maximum net economic rent" recommendation from Crutchfield, Krol and Phinney (1965)[27] and Richards (1968)[28] to estimate for *net socio-economic return.*

Selection of *non-tribal fishing level coefficients for Alternatives 2 and 3* use the same as for Alternative 1[29].

Tribal net economic efficiency for Alternative 1 is determined as the sum of net fishing return (20% of gross fishing revenue in Table 1) plus the labor share of fishing costs (38% of gross fishing revenue), previously termed the *substantial and persistent unemployment credit.* This results in a 58 percent *net economic efficiency* coefficient for tribal fishers under Alternative 1.

Radke et al. (1999) suggest *net economic impacts* from declines in harvests for surviving commercial fisheries be valued at 90 percent of ex-vessel value[30]. Determination of *fishing level coefficients for surviving tribal fisheries under Alternatives 2 and 3* adjust the Radke et al. (1999) 90 percent number by the *substantial and persistent unemployment credit* discussed in prior Section IV.2. To obtain this estimate, we again note from Table 1 that the labor component of fishing cost is 38% - and credit the

[27] Crutchfield, J.A., K.B. Krol and L.A. Phinney, 1995. **On Economic Evaluation of Washington State Department of Fisheries Controlled Natural-Rearing Program for Coho Salmon.** U.S. Fish and Wildlife Service Contract No. 14-17-007-246.

[28] Richards, Jack A., 1968. **An Economic Evaluation of Columbia River Anadromous Programs**. PhD. Thesis. Corvallis: Oregon State University.

[29] Recalling earlier discussion, our *net economic efficiency* convention is based on the premise that non-tribal commercial harvests are almost entirely lost under A2 and A3. Should fishery experts conclude otherwise, a higher 90 percent net economic impact coefficient, recommended by Radke et al. (1999), would be appropriate.

[30] Radke et al. **Supra** at IV-17.

suggested 90 percent *marginal cost* component from Radke et al. accordingly, to obtain an adjusted net economic coefficient for tribal fishers of 94 percent[31].

Processing coefficients were developed in two steps. First, Oregon State University (1978) identified value mark-ups from salmon fishing to processing levels for Puget Sound of between 84 percent and 113 percent, depending on assumptions used. We employ a mark-up of 100 percent here. Second, Penn (1980) estimated variable processing costs at 48 to 50 percent of processing value added. We assume no reduction in processor fixed cost – and utilize a processor net value coefficient of 50% of value added.

Compounding assumed value mark-up and net value percentage, the net economic value coefficient is calculated as a percentage of gross landed value. It is additive to estimates of net economic value at the fishing level.

Resultant fishing and processing level net economic value coefficients are displayed in Table 2.

Table 2

Net Economic Value Coefficients* – Puget Sound Chinook Salmon EIS

Alternative	Measure	Non-Tribal	Tribal
Fishing: A1	**:** *net economic efficiency*	20%	58%
	: *net socio-economic return*	90%	94%
Fishing: A2 & A3	**:** *net economic value*	20% and 90%	94%
Fish Processing – All Alternatives	**:** *net economic value*	50%	50%

* Coefficients are expressed as a percent of gross landed value of salmon.

[31] Tribal fishing net economic return = 1 – [marginal cost] + labour credit] = 1 – .10 + (.10)(.38) = 94%.

ATTACHMENT D

Net Economic Value Factors for Commercial Salmon Fishing Developed by The Research Group

The Research Group
P.O. Box 813
Corvallis, OR 97339
Voice (541) 758-1432 / Facsimile (541) 758-1455 / Email shannon_davis@class.orednet.org

MEMORANDUM

To: Tom Wegge, TCW Economics
From: Hans Radtke and Shannon Davis
Date: October 21, 2003
Re: Puget Sound Chinook Resource Harvest Management Plan EIS - Issues/Questions Concerning Net Economic Values for Commercial Fishing

You asked us about using net economic value (NEV) in the evaluation of harvest management alternatives for the Puget Sound Chinook Resource Harvest Management EIS. Phil Meyer recently prepared a document (report titled "Net Economic Value for Commercial Salmon Fishing in Puget Sound and the Strait of Juan de Fuca," received October 16, 2003) that addresses this topic. Because Phil cited our work on the Snake River (The Research Group, Anadromous Fish Economic Analysis, prepared for the U.S. Army Corps of Engineers Walla Walla District for use in the Lower Snake River Juvenile Salmon Migration Feasibility Study, June 1999) as a key information source, you requested our thoughts on several issues. More specifically, you asked us to address four questions based on consideration of the following.

A. Review of Phil's most recent version of his NEV write-up.

We reviewed Phil Meyer's report and found his discussion very thorough and informative.[1] There are three key points in his report that we would like to address: size of consumer surplus, labor market considerations, and components of producer surplus.

Because of the variety of substitutes available and the price leadership that aquaculture has taken, we expect, as was pointed out by Phil, no calculable net value due to consumers' willingness to pay higher prices. Only in very rare niche market cases, such as customer loyalty for Indian caught salmon products, may a case for consumer surplus be made.

The argument that because unemployment rates in tribal areas are high, crew share (or labor costs) should be counted as a benefit, is reasonable and in line with recommendations made by the Water Resources Council.

Phil reiterates our argument for using 50 percent of the ex-vessel value primary processor margin as an indication of the processing component for producer surplus.[2] We have argued in the past that primary processing should be included because of several factors. Primary processing usually takes place in proximity to harvesting. Also, trolling includes partial processing, while most net fishing lands the catch in the round, and includes tendering. It is for these reasons that the use of a comparable product is reasonable in calculating NEV.

1. One exception is that Phil should spell Hans Radtke's name correctly.
2. Phil should qualify his writing that the primary processing component is 50 percent of the processor margin and not 50 percent of the ex-vessel value.

We argue that primary processing will only take place if processors cover their variable costs plus a "contribution margin" that includes plant overhead and profits. We argue that 50 percent of this "contribution margin" of $0.40 per finished pound is a reasonable estimate. This is based on a finished product weight. The finished product weight, compared to landed weight, will vary according to yields for various products from the purchased fish.

B. The expected changes in the commercial harvest of salmon and steelhead by tribal and non-tribal fishers.

We separated management actions into harvest incremental changes where fleet overcapacity probably exists and large harvest changes where capital costs for gear etc. would have to be incurred (or lost). The incremental changes would not include changes in fixed costs, whereas the large harvest changes would include increases (decreases) in investments.

C. Our understanding of commercial fishing operations in Puget Sound.

We have been involved in modeling fisheries in Washington (and throughout the Pacific Ocean rim) for over 20 years. The original version of the Fisheries Economic Assessment Model included a major input from William Jensen, part of the family that owned and operated Washington Crab Producers. More recently, The Research Group completed a study, "Tribal Salmon Fisheries Marketing Opportunities" for the Northwest Indian Fisheries Commission, dated June 2003. As part of this study, we interviewed several key members of Northwest tribal fisheries on harvesting, processing, and marketing of tribal harvested salmon. As part of this study, we concluded, based on discussions with key members, that the harvesting and processing of tribal and non-tribal caught fish are basically similar. The only difference may be the make-up of the fleet. Tribal harvesting includes more small operations.

Fish ticket data sources can be used to differentiate vessel types for non-treaty fisheries. However, tickets issued within treaty fisheries do not identify unique vessels. We have relied on a fish ticket database to explain vessel types for non-treaty fisheries and the before mentioned study to estimate the fleet mix for treaty harvesters. The following table shows our estimates. The cost-earnings budgets for these vessel types are from the FEAM developed for the current study.

	Vessel Mix	
Vessel Type	Treaty	Non-Treaty
Salmon Troller-Crabber	10%	15%
Part-time Salmon Troller	10%	20%
Salmon Netter	35%	30%
Small General Fisher	45%	35%

We have assumed Year 2002 salmon species prices as shown in the following table.

	Salmon Species/Gears						
	Troll Coho	Troll Chinook	Net Coho	Net Chinook	Net Chum	Net Pink/ Steelhead	Net Sockeye
Ex-vessel price	$0.41	$1.02	$0.37	$0.70	$0.16	$0.48	$0.85

D. Our experience with calculating NEV for commercial salmon fishing with production from the Columbia River and elsewhere.

Most of our original work on commercial fishing was in building regional economic impact models for fisheries along the West Coast and in Alaska. Because those models included budgets for harvesters and processors, we have also been asked to develop NEV estimates for several studies. Some examples:

- In the 1990's, we were asked by the Pacific Salmon Commission to develop comparable NEV estimates between species and geographic areas.[1] Our method for estimating was reviewed by Jim Critchfield (University of Washington) and James Wilen (University of California, Davis), who found the methodology reasonable. The results were never published because negotiations between Canada and the U.S. are always ongoing.

- We have prepared NEV estimates for the Pacific Fishery Management Council (PFMC) for recreational and commercial fishing. We have concluded that, in very general terms across many vessel types, a 0.7 rate (inclusive of a 0.5 harvest and 0.2 primary processing rate) of ex-vessel value is a reasonable NEV estimate. Our methods were reviewed by the PFMC Science and Statistical Committee.

- Our NEV analysis for the Lower Snake River Juvenile Migration Feasibility Study was reviewed by the Northwest Power and Conservation Council, Independent Economic Analysis Board (IEAB).

Based on the above background, we addressed the following questions and calculated NEV on a per round pound basis at single year annual prices for salmon species harvested in the Puget Sound catch areas. Our estimates are shown in the enclosed tables. The ratio of NEV to ex-vessel value would change if there were a different fleet mix or different prices are assumed.

(1) Given the estimated changes in the commercial harvest of salmon and steelhead, what factors would you recommend using for estimating the NEV change in the management alternatives? Please explain your rationale, including the effect (if any) that the redistribution of harvest has on your recommendation.

Harvest capacity is over subscribed for current salmon fisheries. Small incremental changes to fisheries will not result in additional capital costs to ramp up or down for the small changes. Therefore, we recommend a ratio estimate excluding fixed costs for management alternatives that have incremental harvest changes. In situations where there might be under capacity, we recommend that half of a vessel's fixed cost share of annual revenues be included in the calculation of NEV. Where management actions cause large decreases in harvests, the same fixed costs can be considered as investment losses.

1. We worked with Gary Morishima on this project.

(2) Do you recommend using different factors for estimating changes in tribal and non-tribal fisheries? Please explain your rationale.

Based on Phil Meyer's paper in which he argues that tribal unemployment is much higher than in the general economy, and in line with the Water Resources Council recommendation that in areas of high unemployment labor costs should be included as a benefit, in these cases we have added harvest labor cost as part of the NEV estimate.

(3) Do the factors recommended above include NEV for processing? If so, please indicate how you accounted for this component. If not, what do you recommend for estimating NEV for processing?

The factors include estimates of NEV for primary processing. As stated above, it is primary processing that supplies a marketable and comparable product. The gutting, skinning, icing, and boxing are required to move the product from the harvesting area. This component of the NEV is listed under the processor line of the enclosed tables. It includes half of the contribution margin, which covers general plant overhead and profits. Because processor workers are less skilled and are drawn from larger labor market areas, we do not recommend the labor costs from this component of producer surplus be credited back as a benefit.

(4) Do the NEV factors that you recommend take into account potential losses in capital investments (e.g., boats and equipment) associated with reductions in harvest, especially under the no fishing alternative? Please explain.

In both cases of large changes to harvests, we would expect investments in capital equipment to change. We would not expect there are alternative fisheries for existing boats and equipment in a period of declining harvest opportunities.

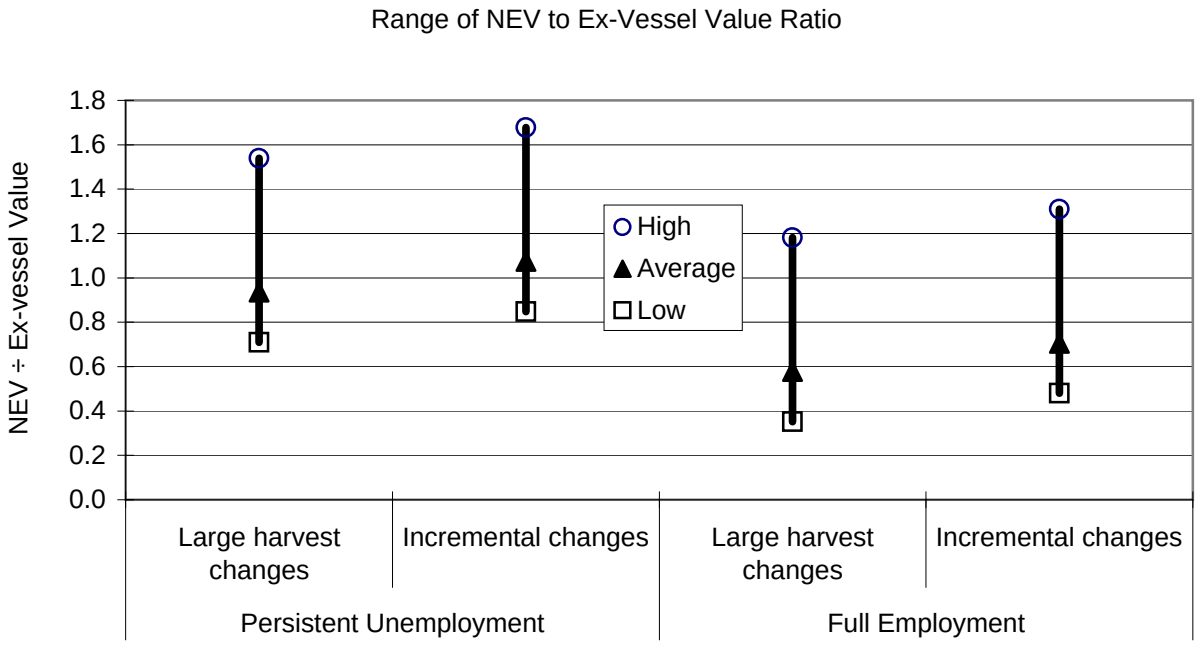
Summary

The range of NEV to ex-vessel value ratios is shown on the following figure. The ratios are specific to the fleet mix and ex-vessel prices. Because of this, the recommended ratios are somewhat different from the very general 0.7 rate of ex-vessel value that was used in the Snake River feasibility study. Those rules were developed based on a different set of harvesters and ex-vessel prices.

The fleet mix changes NEV because different vessel types have different variable and fixed costs. Prices change NEV because the primary processing "contribution margin" tends to stay fairly constant at the $0.40 rate. As the ex-vessel price decreases, the NEV to ex-vessel value ratio will increase.

While we bring more detail to our estimates, we would conclude that our recommendations for NEV factors are generally consistent with the estimates described by Phil Meyer.

Project: NWIFC Puget Sound Chinook Management EIS
Statement: NEV to ex-vessel value ratio
Date: October 22, 2003



Notes: 1. The range is across landed species and vessel types.
2. The ratio will be different for other assumptions of fleet mix and ex-vessel salmon prices.

Project: NWIFC Puget Sound Chinook Management EIS
Statement: NEV by species/gear for treaty and non-treaty
Filter: Treaty Vessel Mix
Date: October 22, 2003

Vessel Type	Vessel Mix	Share of Revenue Variable Costs			Fixed Costs Share	Net Income Share
		Labor	Other	Total		
Salmon Troller-Crabber	10%	39.0%	28.9%	67.9%	12.0%	20.1%
Part-time Salmon Troller	10%	39.0%	12.6%	51.6%	20.4%	27.9%
Salmon Netter	35%	39.0%	49.1%	88.1%	19.4%	-7.5%
Small General Fisher	45%	39.0%	24.3%	63.3%	39.3%	-2.6%
Weighted Total	100%	39.0%	32.3%	71.3%	27.7%	1.0%

Species	Reveue (Ex-vessel price)	Variable Cost Share	Variable Portion	Labor Cost Share	Labor Portion	Fixed Cost Share	Fixed Cost Portion	Net Income Share	Net Income Portion
Troll coho	$0.41	71.3%	$0.29	39.0%	$0.16	27.7%	$0.11	1.0%	$0.00
Troll chinook	$1.02	71.3%	$0.73	39.0%	$0.40	27.7%	$0.28	1.0%	$0.01
Net coho	$0.37	71.3%	$0.26	39.0%	$0.14	27.7%	$0.10	1.0%	$0.00
Net chinook	$0.70	71.3%	$0.50	39.0%	$0.27	27.7%	$0.19	1.0%	$0.01
Net chum	$0.16	71.3%	$0.11	39.0%	$0.06	27.7%	$0.04	1.0%	$0.00
Net pink/steelhead	$0.48	71.3%	$0.34	39.0%	$0.19	27.7%	$0.13	1.0%	$0.00
Net sockeye	$0.85	71.3%	$0.61	39.0%	$0.33	27.7%	$0.24	1.0%	$0.01

Vessel	Troll coho	Troll chinook	Net coho	Net chinook	Net chum	Net pink/ steelhead	Net sockeye	
Revenue (ex-vessel price)	$0.41	$1.02	$0.37	$0.70	$0.16	$0.48	$0.85	
Variable	$0.29	$0.73	$0.26	$0.50	$0.11	34.2%	$0.61	
Labor costs	$0.16	$0.40	$0.14	$0.27	$0.06	$0.19	$0.33	
1/2 fixed costs	$0.06	$0.14	$0.05	$0.10	$0.02	$0.07	$0.12	
Net income	$0.00	$0.01	$0.00	$0.01	$0.00	$0.00	$0.01	
Processor								
Yield	0.87	0.87	0.80	0.80	0.80	0.80	0.80	
Contribution margin (finish)	$0.40	$0.40	$0.40	$0.40	$0.40	$0.40	$0.40	
Contribution margin (round)	$0.35	$0.35	$0.32	$0.32	$0.32	$0.32	$0.32	
1/2 margin is net income	$0.17	$0.17	$0.16	$0.16	$0.16	$0.16	$0.16	Full employment, over capacity
NEV								
NEV w/o labor, w/o fixed	$0.29	$0.47	$0.27	$0.36	$0.21	$0.30	$0.40	Full employment, over capacity
NEV w/o labor, w fixed	$0.23	$0.33	$0.21	$0.26	$0.18	$0.23	$0.29	Full employment, under capacity
NEV w labor, w/o fixed	$0.45	$0.86	$0.41	$0.63	$0.27	$0.49	$0.74	Persistent unemployment, over capacity
NEV w labor, w fixed	$0.39	$0.72	$0.36	$0.54	$0.25	$0.42	$0.62	Persistent unemployment, under capacity

Ex-vessel price ratio	Troll coho	Troll chinook	Net coho	Net chinook	Net chum	Net pink/ steelhead	Net sockeye
Large harvest changes	1.0	0.7	1.0	0.8	1.5	0.9	0.7
Incremental changes	1.1	0.8	1.1	0.9	1.7	1.0	0.9

Project: NWIFC Puget Sound Chinook Management EIS
Statement: NEV by species/gear for treaty and non-treaty
Filter: Non-treaty Vessel Mix
Date: October 22, 2003

Vessel Type	Vessel Mix	Share of Revenue Variable Costs			Fixed Costs Share	Net Income Share
		Labor	Other	Total		
Salmon Troller-Crabber	15%	39.0%	28.9%	67.9%	12.0%	20.1%
Part-time Salmon Troller	20%	39.0%	12.6%	51.6%	20.4%	27.9%
Salmon Netter	30%	39.0%	49.1%	88.1%	19.4%	-7.5%
Small General Fisher	35%	39.0%	24.3%	63.3%	39.3%	-2.6%
Weighted Total	100%	39.0%	30.1%	69.1%	25.5%	5.4%

Species	Reveue (Ex-vessel price)	Variable Cost Share	Variable Portion	Labor Cost Share	Labor Portion	1/2 Fixed Cost Share	Fixed Cost Portion	Net Income Share	Net Income Portion
Troll coho	$0.41	69.1%	$0.28	39.0%	$0.16	12.7%	$0.05	5.4%	$0.02
Troll chinook	$1.02	69.1%	$0.70	39.0%	$0.40	12.7%	$0.13	5.4%	$0.06
Net coho	$0.37	69.1%	$0.26	39.0%	$0.14	12.7%	$0.05	5.4%	$0.02
Net chinook	$0.70	69.1%	$0.48	39.0%	$0.27	12.7%	$0.09	5.4%	$0.04
Net chum	$0.16	69.1%	$0.11	39.0%	$0.06	12.7%	$0.02	5.4%	$0.01
Net pink/steelhead	$0.48	69.1%	$0.33	39.0%	$0.19	12.7%	$0.06	5.4%	$0.03
Net sockeye	$0.85	69.1%	$0.59	39.0%	$0.33	12.7%	$0.11	5.4%	$0.05

Vessel	Troll coho	Troll chinook	Net coho	Net chinook	Net chum	Net pink/ steelhead	Net sockeye	
Revenue (ex-vessel price)	$0.41	$1.02	$0.37	$0.70	$0.16	$0.48	$0.85	
Variable	$0.28	$0.70	$0.26	$0.48	$0.11	33.2%	$0.59	
Labor costs	$0.16	$0.40	$0.14	$0.27	$0.06	$0.19	$0.33	
1/2 fixed costs	$0.05	$0.13	$0.05	$0.09	$0.02	$0.06	$0.11	
Net income	$0.02	$0.06	$0.02	$0.04	$0.01	$0.03	$0.05	
Processor								
Yield	0.87	0.87	0.80	0.80	0.80	0.80	0.80	
Contribution margin (finish)	$0.40	$0.40	$0.40	$0.40	$0.40	$0.40	$0.40	
Contribution margin (round)	$0.35	$0.35	$0.32	$0.32	$0.32	$0.32	$0.32	
1/2 margin is net income	$0.17	$0.17	$0.16	$0.16	$0.16	$0.16	$0.16	Full employment, over capacity
NEV								
NEV w/o labor, w/o fixed	$0.30	$0.49	$0.27	$0.38	$0.21	$0.31	$0.42	Full employment, over capacity
NEV w/o labor, w fixed	$0.25	$0.36	$0.23	$0.29	$0.19	$0.25	$0.31	Full employment, under capacity
NEV w labor, w/o fixed	$0.46	$0.89	$0.42	$0.65	$0.27	$0.50	$0.75	Persistent unemployment, over capacity
NEV w labor, w fixed	$0.41	$0.76	$0.37	$0.56	$0.25	$0.43	$0.65	Persistent unemployment, under capacity

Ex-vessel value ratio	Troll coho	Troll chinook	Net coho	Net chinook	Net chum	Net pink/ steelhead	Net sockeye
Large harvest changes	0.6	0.4	0.6	0.4	1.2	0.5	0.4
Incremental changes	0.7	0.5	0.7	0.5	1.3	0.6	0.5

ATTACHMENT E

Economic Factors for Salmon Sport Fishing

Developed by The Research Group

The Research Group
P.O. Box 813
Corvallis, OR 97339

Voice (541) 758-1432 / Facsimile (541) 758-1455 / Email shannon_davis@class.orednet.org

MEMORANDUM

To: Tom Wegge
From: Hans Radtke and Shannon Davis
Date: September 18, 2003
Re: Economic Analysis Results for the Puget Sound Chinook Salmon Fishery Management Plan, Pertaining to Recreational Fisheries

This memorandum describes our recreational economic analysis results for the referenced project. They are contained in an attached Excel workbook. In regards to methods, recreational models are pretty straightforward: trips * spending per trip * multipliers = economic contribution. The hard part, of course, is acquiring data for each of these terms. We have discussed the IMPLAN and FEAM approach for getting multipliers in another memorandum to you, so we will not duplicate that discussion here.

We have used Gentner (2001) numbers for trips and spending per trip in the model. Gentner's publication describes a MRFSS economic add-on survey's results. The survey was administered in Year 2000. Gentner's trips are for saltwater fisheries at the statewide level when trip purposes include salmon and all other species. Gentner also reports trips by whether the angler's residence is within or outside Washington. We have adjusted the statewide numbers to regions using angler trips from RecFIN, which are available at the county level. RecFIN does not provide trips by residency, so we have kept Gentner's proportion of resident anglers. We assume NOAA Fisheries will supply the actual trips and angler counts by residency for the state and subregions, but we needed some numbers to test the model's application.

We have also used Gentner for calculating the economic effects from angler counts that generate the trips. It will not be necessary to use angler counts for small changes to trips, but it would be necessary if an EIS alternative calls for substantial reduction or increase in fisheries. Finding angler counts and their residence is more problematic because RecFIN does not provide these tallies directly. We can help suggest methods for finding these counts, such as maybe using some factor based on annual average effort per angler.

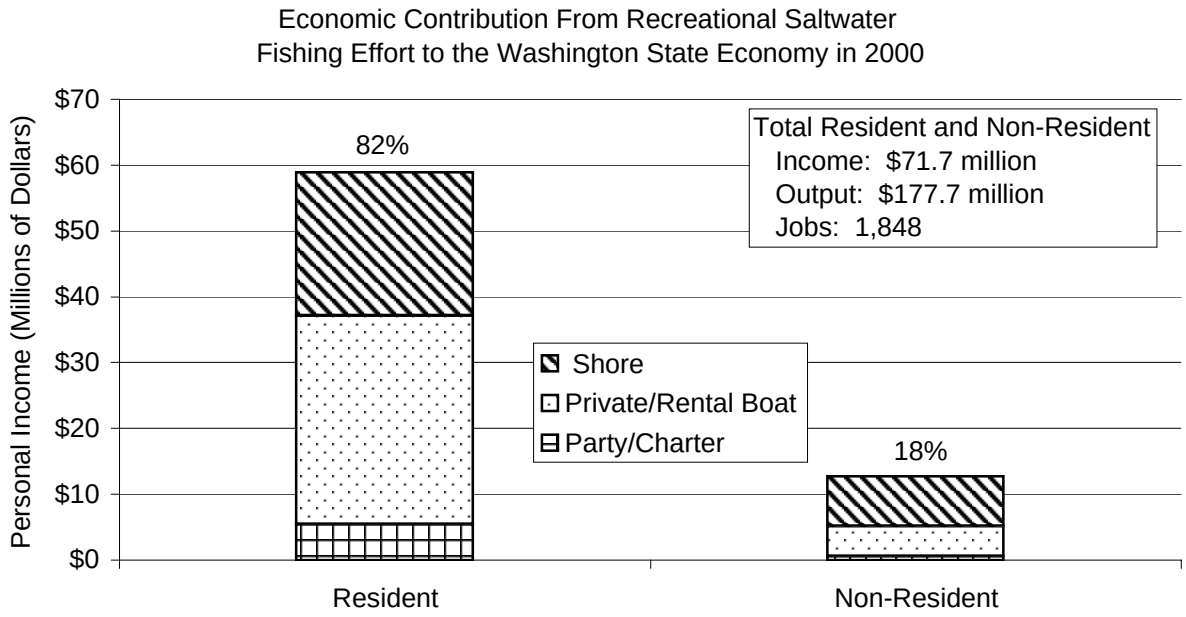
The recreation model uses statewide average spending per trip at the statewide level and sub-state regions. The multipliers are specific to the sub-state region. The multipliers and results are for three contribution measurements: personal income, output, and jobs (FTE). Notice we have also calculated jobs at the state level using BEA earnings per job to compare to jobs calculated from IMPLAN custom multipliers. They were within 10 percent, so we feel pretty good about using the IMPLAN custom multipliers.

Total trip related NEV is calculated using benefit transfer approach. We have used Olsen (1990) ocean trip tables updated to current dollars, but can use other studies as necessary.

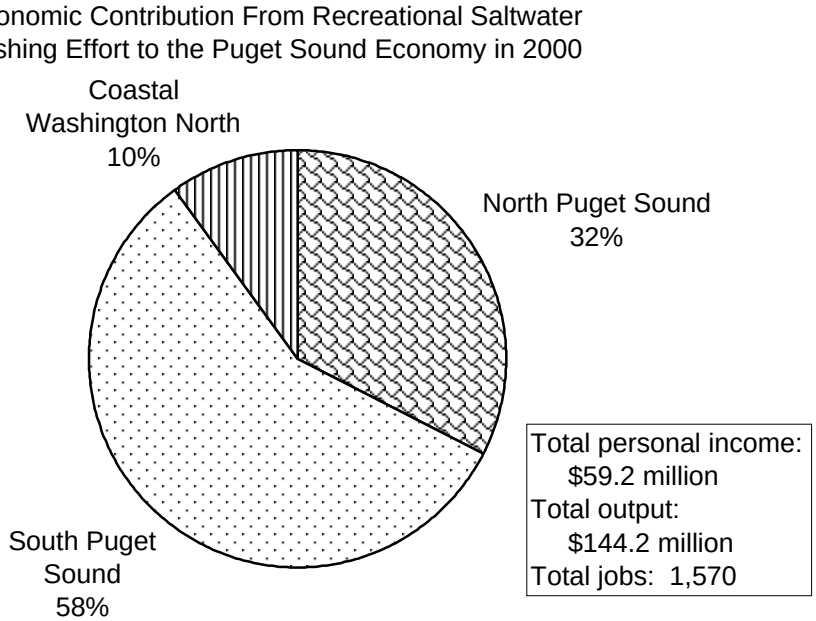
The results show there was $71.7 million (2002 dollars) in personal income contributed to the State's economy in 2000. The output and jobs (FTE) were $177.7 million and 1,848, respectively. About 82 percent was from resident anglers and 18 percent from non-resident anglers (Figure 1). Puget Sound fishing contributed $59.2 million personal income, $144.2 million output, and 1,570 jobs (FTE). The share of the economic contribution by sub-state regions was 58 percent south Puget Sound, 32 percent north Puget Sound, and 10 percent coastal Washington north.

Let me know if you have comments so I can incorporate them into the model for its easy application.

Project: NWIFC Puget Sound Chinook Management EIS
Statement: Recreational Model
Date: September 16, 2003
Report: Figure 1



Notes: 1. Economic contribution measured by personal income adjusted to 2002 dollars using the GDP implicit price deflator developed by the U.S. Bureau of Economic Analysis. Economic contribution is at the state level.
2. Economic contribution includes direct, indirect, and induced impacts (multiplier effect) on the economy.
3. Year 2000 effort and per trip spending from Gentner et al., Marine Angler Expenditures in the Pacific Coast Region, 2000, National Marine Fisheries Service, November 2001.



Notes: 1. Economic contribution measured by personal income adjusted to 2002 dollars using the GDP implicit price deflator developed by the U.S. Bureau of Economic Analysis. Economic contribution is at the local level economy.
2. Economic contribution includes direct, indirect, and induced impacts (multiplier effect) on the economy.
3. Year 2000 effort and per trip spending from Gentner et al., Marine Angler Expenditures in the Pacific Coast Region, 2000, National Marine Fisheries Service, November 2001, allocated to regions using Year 2000 trips from RecFIN.